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## SOME TENDENCIES INDICATED BY THE NEW LIFE TABLES<sup>1</sup>

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The United States Census Bureau has recently issued its third volume of life tables.<sup>2</sup> This publication is abridged in the sense that the data are given for every fifth year of life (after age 2) instead of for each year of life. The tables differ from previous ones also in that they are not specific for native and foreign-born stock or for urban and rural districts. On the other hand, they will be of special interest to health officers because data for the white population are furnished separately for 23 States and 14 large cities. The tables give, for the combined years 1919 and 1920, the smoothed annual rate of mortality, the number surviving and the number dying out of 100,000 born alive, and the expectation, for every fifth year of life, for males and females of each color.

The bulletin confirms certain conclusions which had already been arrived at by various writers relative to the changes in mortality between 1910 and 1920. It will be of interest to examine the material in the report in this light.

It must be recalled that, the data being based on the years 1919-20, the results are influenced by the recrudescence of influenza in the spring of 1919 and the further wave of the epidemic in the spring of 1920.

As some readers may not be familiar with life table construction, a simple explanation of the principles may be desirable. It is assumed that 100,000 individuals are born at a certain instant of time. During the first day of their life a certain number will die, leaving less than the original 100,000 to commence the second day; similar diminutions of the original group will occur on successive days (or other interval of time), until, after somewhat more than 100 hypothetical years have passed, all will have died. The rate of loss from day to day, or year to year, may be determined from the specific mortality rates of any city or State for which a life table is desired.

<sup>1</sup> From the Statistical Office, United States Public Health Service.

<sup>2</sup> The United States Abridged Life Tables, 1919-1920, prepared by Elbertie Foudray, under the direction of Dr. William H. Davis. Bureau of the Census, Department of Commerce, Washington.

In other words, these rates (when smoothed by rather complicated mathematical procedures) may be applied to the 100,000 or any part thereof alive at the beginning of any age interval to determine the number dying during that interval. The following table will clarify this:

Age interval (days).	Population at beginning of age interval.	Specific mortality rate per 1,000 for State or city.	Hypothetical deaths out of original 100,000 in the age interval.
0-30	100,000	7	700
30-60	99,300	4	397
60-90	98,903	2	198
90-120	98,705	And so on.	And so on.

In this way is obtained an age distribution of the population which is unique in that it is unaffected by immigration or emigration or by excess of births over deaths. The expectation of life (or average length of life) is obtained by weighting the age at death by the number of individuals dying at that age. Expectations are obtained for any particular age by eliminating all ages younger than the one in question.

Other values are included in the usual life table, but need not concern us. The life table mortality rates used in this paper refer to the smoothed specific rates for the actual population.

#### IMPROVEMENT IN EXPECTATION AT BIRTH.

Figure 1 presents the expectation at birth (mean after-lifetime) for white and colored persons of each sex, during the years 1900-1902, 1909-11, and 1919-20, for the group of "original registration States."<sup>3</sup> It is evident that, so far as expectation at birth is concerned, the decade 1910-1920 has witnessed the same general progress as the previous decade. The females still have a better expectation than the males, in both white and colored populations. The colored show even more improvement than the white in expectation at birth in the past 10 years. In general it may be said that they have about the expectation at birth which the white had 30 or 40 years ago. Since the 1919-20 data cover years in which influenza was epidemic, the real gains are presumably greater for both white and colored than those indicated in the graph.

#### TREND OF EXPECTATION AT EACH AGE.

But we must not forget that expectation at birth tells only part of the story. It is necessary to consider the expectation at each age. Table 1 gives the data.

<sup>3</sup> These States are as follows: The New England States, and New York, New Jersey, the District of Columbia, Indiana, and Michigan.

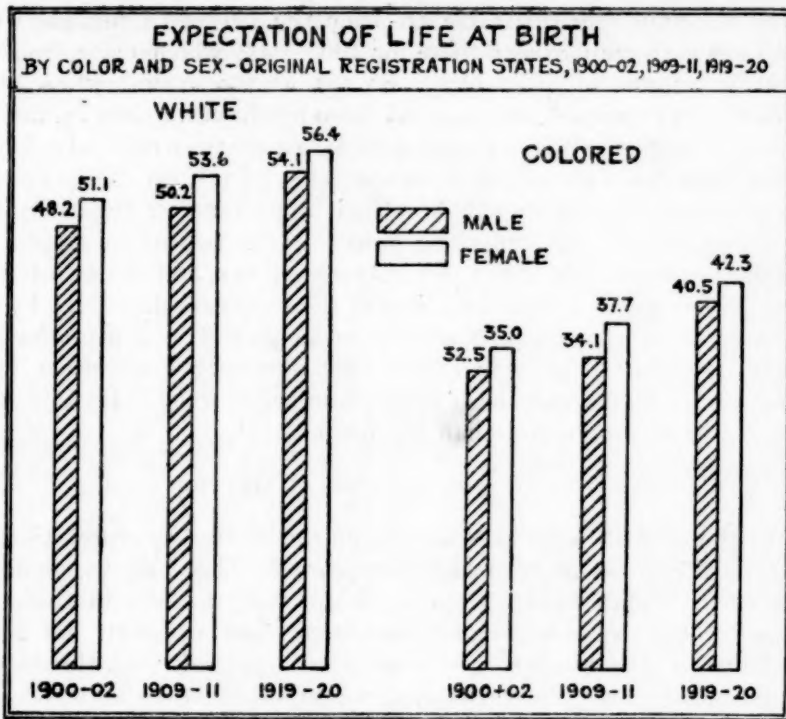


FIG. 1.

TABLE 1.—*Expectation of life in the original registration States at certain exact ages, by color and sex, 1900-1902, 1909-1911, and 1919-20.*<sup>1</sup>

Exact age in years.	Average number of years of life remaining to individuals of specified ages.											
	White.						Colored.					
	Male.			Female.			Male.			Female.		
	1900-1902	1909-1911	1919-20	1900-1902	1909-1911	1919-20	1900-1902	1909-1911	1919-20	1900-1902	1909-1911	1919-20
0.....	48.2	50.2	54.1	51.1	53.6	56.4	32.5	34.1	40.5	35.0	37.7	42.3
1.....	54.6	56.3	58.5	56.4	58.7	59.9	42.5	42.5	46.2	43.5	45.1	47.1
2.....	55.5	56.9	58.6	57.2	59.2	59.9	45.0	44.5	47.5	45.8	46.9	48.2
7.....	53.0	53.9	55.3	54.6	56.1	56.4	44.0	42.9	45.1	44.9	45.1	45.8
12.....	48.9	49.6	51.0	50.4	51.8	52.0	40.4	39.1	41.0	41.7	41.3	41.7
17.....	44.6	45.2	46.7	46.1	47.4	47.6	36.9	35.4	37.4	38.6	37.9	38.1
22.....	40.7	41.1	42.7	42.3	43.3	43.6	33.9	32.3	34.6	35.7	34.9	35.2
27.....	37.1	37.2	38.8	38.6	39.3	39.8	31.1	29.2	31.7	32.6	31.6	32.0
32.....	33.4	33.3	34.9	35.0	35.4	36.1	28.0	26.2	28.5	29.4	28.3	28.8
37.....	29.9	29.6	31.1	31.4	31.6	32.3	24.9	23.3	25.4	26.3	25.2	25.6
42.....	26.3	26.0	27.3	27.7	27.7	28.4	21.9	20.5	22.3	23.1	22.2	22.5
47.....	22.8	22.5	23.6	24.1	24.0	24.5	19.0	17.7	19.3	20.3	19.3	19.4
52.....	19.4	19.0	19.9	20.5	20.3	20.8	16.2	15.2	16.5	17.5	16.5	16.5
57.....	16.2	15.8	16.5	17.1	16.8	17.3	13.9	12.9	13.8	14.9	14.1	14.1
62.....	13.2	12.9	13.4	14.0	13.7	14.0	11.7	10.9	11.4	12.7	12.0	12.1
67.....	10.5	10.3	10.6	11.1	10.9	11.1	9.5	9.0	9.3	10.7	10.2	10.2
72.....	8.1	7.9	8.2	8.6	8.5	8.7	7.6	7.4	7.6	8.9	8.5	8.4
77.....	6.1	6.0	6.2	6.5	6.4	6.6	6.0	6.1	5.9	7.3	6.9	6.9
82.....	4.5	4.6	4.5	4.9	4.8	5.0	4.7	5.1	3.9	5.9	5.6	5.1
87.....	3.4	3.5	3.2	3.6	3.6	3.7	3.7	4.3	2.3	4.6	4.9	3.4

<sup>1</sup> Data for 1900-1902 and 1909-1911 from 1890-1910 United States Life Tables; data for 1919-1920 from United States Abridged Life Tables.

All the figures in this table are from the 1919-20 Life Tables of the Census Bureau, except those for 1900-1902 which come from a previous volume of life tables.<sup>4</sup> So far as the males (white and colored) are concerned, the gains indicated by the crude data are maintained. As Figure 2 shows, up to extreme old age the white and colored males have made a steady gain in expectancy. In old age the data must be regarded as quite unreliable. Their appearance of regularity is, of course, due to the smoothing process. The two upper graphs in Figure 2 compare the three periods for each sex, and the two lower repeat the curves in order to compare the two sexes directly. From 1900 to 1910, although the colored males gained in expectation at birth, they lost heavily in expectation at nearly every other age. These losses have now been more than made good. In fact, the colored gains are greater than the white.

#### IMPROVEMENT IN LONGEVITY AT MATURE AGES.

In the case of both sexes and colors the decline in expectation in middle life noted in 1910 has disappeared. This fact was pointed out in the Public Health Reports of March 3, 1922, on the basis of data for the expanding registration area,<sup>5</sup> and attention has been called to it by a number of writers, who have dealt with the results in certain States. Special attention may be called to an article by Gladden W. Baker.<sup>6</sup>

This improvement in longevity at mature ages is the first significant fact to which it is desired to call attention. The decline in expectation in 1910 over 1900 at these ages created a great deal of comment and speculation as to whether such a tendency would continue. Newsholme,<sup>7</sup> in commenting on this matter before life tables for 1919-20 were available, suggested that the United States might anticipate an early extension of the reduced death rate to all ages, paralleling changes which had previously taken place in England and one or two States in this country. This situation seems to have already been realized. Figure 3 indicates that the improvement at mature ages is consistently maintained by the male populations of all important States and cities for which data for the two periods have been worked up into life tables.

<sup>4</sup> United States Life Tables, 1890, 1901, 1910, and 1931-1910. Prepared by James W. Glover. United States Bureau of the Census, 1921.

<sup>5</sup> Death rate in every age group lower in 1920 than in 1910. Pub. Health Rep., Mar. 3, 1922, p. 487.

<sup>6</sup> The trend of adult mortality in the United States. By Gladden W. Baker. Jour. of Am. Statistical Assoc., September, 1923, p. 832.

<sup>7</sup> National changes in health and longevity. Sir Arthur Newsholme. Quarterly Pub. of the Am. Statistical Assoc., June, 1921, p. 669.





## MORE RAPID DECLINE IN MORTALITY IN URBAN DISTRICTS.

From 1900 to 1910 there was a tendency for the urban mortality rates to fall more rapidly than the rural. This is well indicated in Table 2, giving the life table mortality rates<sup>8</sup> for white persons in urban and rural districts, by sex and age.

TABLE 2.—Urban and rural life table specific mortality rates for white persons in the original registration States, at certain exact ages, 1900-1902 and 1909-1911.<sup>1</sup>

Age.	Urban annual rates per 1,000.		Rural annual rates per 1,000.		Ratio of rate for period 1909-1911 to that for years 1900- 1902 (100=1900- 1902 rate).	
	1900-1902	1909-1911	1900-1902	1909-1911	Urban.	Rural.
MALE.						
0.....	151.0	133.8	109.0	103.3	89	95
10.....	3.0	2.6	2.3	2.1	87	91
20.....	6.3	4.9	5.0	4.4	78	96
30.....	9.5	7.2	5.8	5.4	76	93
40.....	13.5	12.1	7.1	7.1	90	100
50.....	20.3	19.2	10.7	10.7	95	100
60.....	38.1	38.5	21.7	22.9	101	105
70.....	73.1	74.2	51.5	52.9	102	103
FEMALE.						
0.....	125.5	111.2	89.8	85.0	89	95
10.....	2.5	2.2	2.1	1.8	88	86
20.....	5.4	4.1	5.5	4.4	76	80
30.....	8.3	6.3	6.8	5.5	76	81
40.....	10.7	8.8	7.5	6.7	82	89
50.....	16.3	14.4	10.4	9.9	88	95
60.....	31.3	30.7	20.1	20.1	98	100
70.....	63.1	63.5	46.3	49.9	101	108

<sup>1</sup> From 1890-1910 U. S. Life Tables.

Figure 3 suggests that the greater decline in mortality in cities has continued during the past ten years; in other words, that there has been a greater increase in expectation of life in the cities. Chicago, Philadelphia, New York City, and Boston all show a greater increase in expectancy than any of the five States. Since urban and rural districts are not tabulated separately in the present volume of life tables, no direct comparison can be made.

Although the urban rates appear to be falling more rapidly than the rural, they are still much higher, as may be seen by comparing the expectation in large cities with the expectation in the States in which they are located. This is done in Table 3.

<sup>8</sup> It should be noted that the life table specific mortality rates used in this paper were obtained by the Census Bureau by smoothing the figures for the actual number of persons living in each age group and for the actual number of deaths occurring in each age group. They are distinct from the average annual death rate per 1,000 of population in current and all older age intervals, based on a stationary population—a rate used in most life tables, but not employed in this paper.



TABLE 3.—*Expectation of life among white persons in certain cities<sup>1</sup> and in the States in which they are located, 1919-20.<sup>2</sup>*

Cities.	Average number of years of life—			Cities.	Average number of years of life—		
	Expected in city.	Expected in State in which city is located.	Excess of State expectation over city.		Expected in city.	Expected in State in which city is located.	Excess of State expectation over city.
Los Angeles.....	53.5	54.5	1.0	San Francisco.....	51.8	54.5	2.7
Cleveland.....	52.5	56.2	3.7	New York.....	51.6	52.8	1.2
Chicago.....	52.4	55.2	2.8	Baltimore.....	51.5	53.8	2.3
St. Louis.....	52.3	56.8	4.5	Boston.....	50.6	54.1	3.5
Philadelphia.....	52.2	53.3	1.1	Buffalo.....	49.6	52.8	3.2
Detroit.....	52.1	55.1	3.0	Pittsburgh.....	47.2	53.3	6.1

<sup>1</sup> New Orleans omitted, since there are no data for the whole State. Washington, D. C., also omitted.

<sup>2</sup> Data from United States Abridged Life Tables.

Possibly an important reason why the rural rates are not falling so rapidly is that they are already closer to a minimum rate—i. e., a decline from 11 to 10 deaths per 1,000 will clearly be more difficult than a decline from 15 to 14, and such gains will become increasingly difficult as the minimum is approached.

#### INCREASE IN FEMALE MORTALITY RATES AT CERTAIN AGES.

As pointed out by recent writers, the improvement in expectation at each age noted in the case of males, is not so evident in the data for females. In fact, except for expectation at birth, only slight progress would appear to have been made in the past decade, if the years 1919-1920 are taken to be representative.

Returning to Figure 2, we note that the expectation of life for white females shows very little change from 1910 to 1920 at most ages. Some improvement may be observed after the 30-year mark, but the tendencies manifested from 1900 to 1910 have not continued. The expectancy for colored females has improved slightly since 1910; but, except for childhood, they have failed entirely to recover the ground lost from 1900 to 1910. The two lower curves indicate that the traditional advantage held by the females over the males in longevity has been considerably reduced.

Expectation curves are cumulative, and a more precise view of the relations at each age is observable from the smoothed specific annual mortality rates from which the expectation curves were calculated. The Census volume also gives these rates. It is clear that a reverse relation will hold here—a fall in the curve from one period of time to another will mean an increase in length of life. Table 4, therefore, gives the life table mortality rates for 1919-20, by color, sex, and age, using, as before, the rates at certain exact ages.

TABLE 4.—*Specific life table annual mortality rates per 1,000 in the original registration States at certain exact ages, by color and sex, 1900-1902, 1909-11, and 1919-20.*<sup>1</sup>

Exact age in years.	White.						Colored.					
	Male.			Female.			Male.			Female.		
	1900- 1902	1909- 1911	1919- 20	1900- 1902	1909- 1911	1919- 20	1900- 1902	1909- 1911	1919- 20	1900- 1902	1909- 1911	1919- 20
0	133.5	123.3	92.4	110.6	102.3	73.6	253.3	219.3	144.9	214.7	185.1	120.3
1	34.5	28.2	18.8	31.1	25.8	16.9	77.3	66.8	46.9	70.2	58.8	44.0
2	15.8	12.7	9.1	14.8	11.4	8.2	34.3	32.1	18.3	33.3	24.5	16.1
7	4.2	3.4	3.3	3.9	3.1	2.8	8.1	6.2	5.4	8.5	5.8	5.7
12	2.6	2.3	2.3	2.4	2.0	1.9	6.5	5.6	4.9	8.4	6.4	4.9
17	4.3	3.5	3.9	4.3	3.3	3.5	10.1	9.7	10.9	11.1	10.6	10.8
22	6.7	5.4	5.0	6.2	4.7	5.4	12.5	12.5	13.0	11.3	10.6	10.7
27	7.3	5.8	5.9	7.1	5.5	6.6	13.2	12.8	11.7	11.0	10.3	11.4
32	8.5	7.3	6.9	8.1	6.5	6.9	13.6	16.2	13.1	12.5	13.1	12.5
37	9.9	9.2	7.7	8.7	7.5	6.9	15.8	18.4	15.3	14.2	15.1	14.3
42	11.2	11.0	9.1	9.8	8.6	7.8	17.8	22.5	18.0	17.1	19.0	17.1
47	13.7	13.8	11.1	11.6	10.9	10.0	24.3	26.5	20.9	23.3	23.1	20.3
52	17.1	17.2	14.9	15.0	14.1	13.4	28.3	34.2	27.3	24.7	27.8	28.7
57	24.2	25.1	21.9	21.3	21.0	19.3	43.2	44.2	36.4	37.3	40.3	41.5
62	32.8	35.4	30.5	28.7	30.0	27.5	46.2	55.8	48.7	42.9	50.0	50.2
67	48.2	50.2	46.1	42.5	44.0	43.1	61.3	70.9	65.7	60.9	66.5	60.0
72	68.6	72.3	69.3	63.0	66.3	64.0	84.7	93.9	88.9	71.5	75.7	80.2
77	104.4	108.0	102.1	94.9	96.1	94.6	114.1	124.8	103.1	95.5	98.4	95.9
82	155.4	158.3	150.8	141.2	149.1	139.4	150.1	140.1	151.3	117.4	136.8	120.7
87	218.6	215.5	212.0	200.3	202.1	196.0	207.3	196.7	198.3	159.9	170.0	146.7

<sup>1</sup> Data for 1900-02 and 1909-11 from 1890-1910 United States Life Tables; data for 1919-20 from United States Abridged Life Tables.

The data are shown in Figure 4 on a semilogarithmic scale, in order to place the changes on a percentage basis. The curves on the left compare the two sexes for each period, and the same curves are repeated on the right to compare the three periods for each sex. The extraordinary elevation in the 1919-20 curve for females for the ages 20 to 30 is quite marked, and centers attention on these 10 years.

The Metropolitan Life Insurance Company calls attention to this phenomenon among their policy-holders.<sup>9</sup> The Census Bureau has also observed the changed relation<sup>10</sup> and publishes in the Abridged Life Tables, 1919-1920, a special table giving by age the excess mortality rate of one sex over the other, by States, in 1919-20, together with the data for the original registration States for 1909-1911 and 1919-20. Table 5 reproduces the data for the whole group of States, using, however, percentage differences instead of excess rates.

<sup>9</sup> Statistical Bulletin, Metropolitan Life Insurance Company, May, 1923.

<sup>10</sup> Cf. also, Changes in mortality in the last two decades in New England, New York, New Jersey, Michigan, Indiana, and the District of Columbia. By Elbertie Fondray, U. S. Bureau of the Census. American Journal of Public Health, Vol. XIII, No. 8, August, 1923.

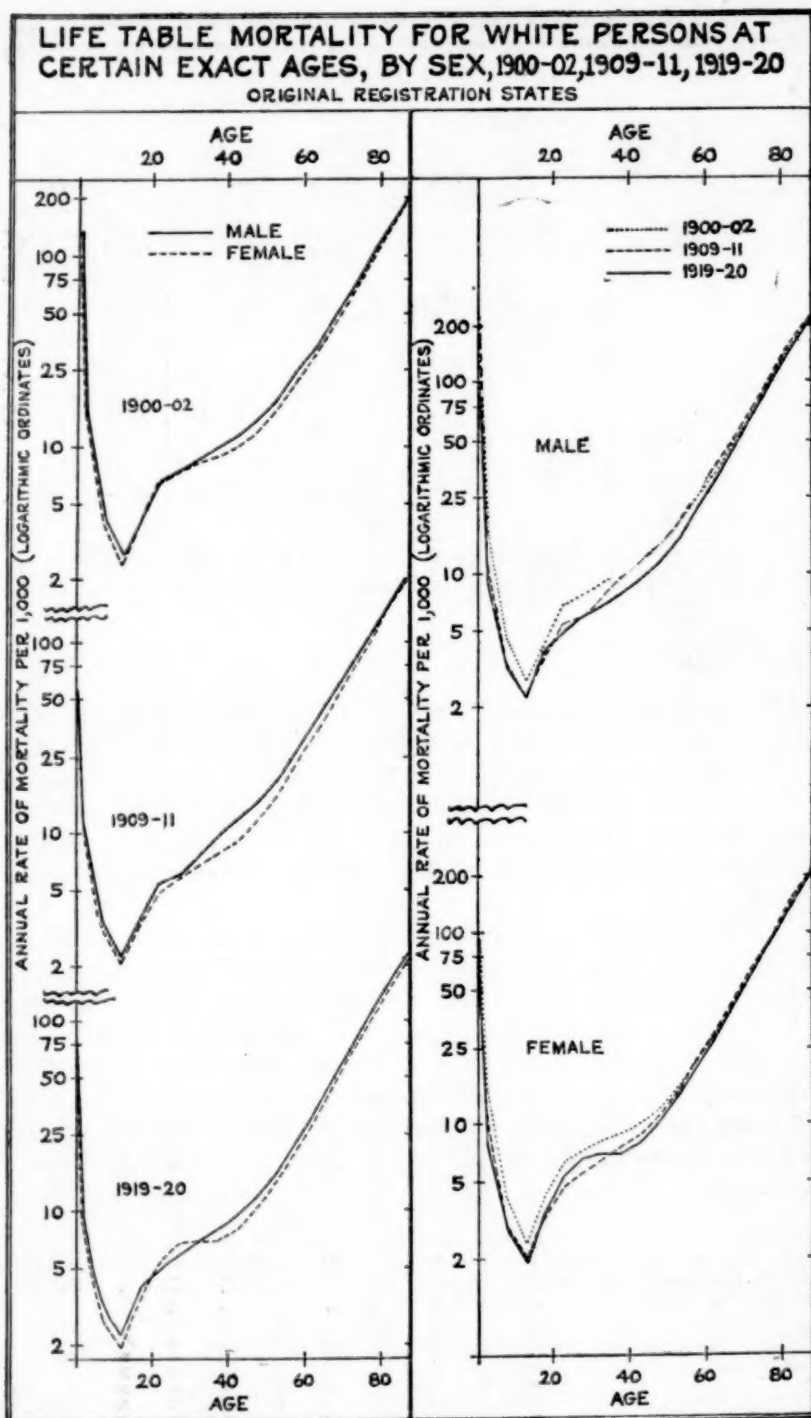


FIG. 4.



TABLE 5.—Percentage by which the white mortality rate in one sex exceeds that in the other sex, 1900-02, 1909-11, and 1919-20, for the original registration States, and 1919-20 for a group of States as a whole.<sup>1</sup>

Exact age in years.	28 States. <sup>2</sup>		Original registration states.					
	1919-20		1900-02		1909-11		1919-20	
	Male excess.	Female excess.	Male excess.	Female excess.	Male excess.	Female excess.	Male excess.	Female excess.
0.....	20.2	.....	17.2	.....	17.0	.....	20.3	.....
1.....	10.1	.....	9.9	.....	8.5	.....	10.1	.....
2.....	8.4	.....	6.3	.....	10.2	.....	9.9	.....
7.....	13.6	.....	7.1	.....	8.8	.....	15.2	.....
12.....	14.1	.....	7.7	.....	13.0	.....	13.0	.....
17.....	12.2	.....	0	.....	5.7	.....	10.3	.....
22.....	.....	8.9	7.5	.....	13.0	.....	.....	7.4
27.....	.....	11.3	2.7	.....	5.2	.....	.....	10.6
32.....	.....	15.8	4.7	.....	11.0	.....	0	.....
37.....	7.4	.....	12.1	.....	18.5	.....	10.4	.....
42.....	12.7	.....	12.5	.....	21.8	.....	13.2	.....
47.....	10.3	.....	15.3	.....	21.0	.....	9.9	.....
52.....	10.3	.....	12.3	.....	18.0	.....	10.1	.....
57.....	11.9	.....	12.0	.....	16.3	.....	11.9	.....
62.....	10.9	.....	12.5	.....	15.3	.....	9.5	.....
67.....	8.7	.....	11.8	.....	12.4	.....	6.7	.....
72.....	8.1	.....	8.2	.....	8.3	.....	7.5	.....
77.....	6.5	.....	9.1	.....	11.0	.....	7.3	.....
82.....	7.0	.....	9.1	.....	5.8	.....	7.6	.....
87.....	6.3	.....	8.4	.....	6.2	.....	7.5	.....

<sup>1</sup> Excess for 28 States computed from data given in 1919-20 U. S. Abridged Life Tables; that for original registration States computed from data in Table 6 of this paper.

<sup>2</sup> Including the District of Columbia. The States are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Tennessee, Kentucky, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Missouri, Kansas, Utah, California, Oregon, and Washington.

It is manifest not only that there is at present an excess of mortality among young adult females, but also that this excess is a phenomenon of the present tables and did not show itself in 1900-02 or 1909-1911.

Table 6 was prepared to indicate the geographical distribution of this excess.

TABLE 6.—Ratio of mortality among white females to that among white males, by age, for each of 23 States, 1919-20.<sup>1</sup>

[Mortality of males at the given age = 100. Ratios below 100 therefore indicate a male excess and are in bold face type.]

State.	Average of ratios for ages 22, 27, and 32.	Age.									
		12	17	22	27	32	37	42	47	52	57
Kentucky.....	134	97	100	128	140	134	115	105	104	102	102
Indiana.....	131	99	97	134	131	128	105	101	100	102	92
Tennessee.....	129	95	101	124	137	125	121	106	116	104	96
Michigan.....	127	90	93	130	138	113	108	102	100	103	93
North Carolina.....	118	83	100	117	116	120	140	100	100	97	96
Wisconsin.....	114	84	77	118	122	102	102	95	97	94	94
Ohio.....	113	83	87	118	117	104	93	86	91	89	89
Kansas.....	112	93	81	106	116	115	112	105	107	102	99
Minnesota.....	112	84	87	112	121	102	102	97	96	93	93
Missouri.....	111	93	85	108	117	109	97	92	89	89	82
Maryland.....	110	85	100	121	110	99	83	86	85	82	87
Illinois.....	109	87	85	111	116	99	90	86	83	87	86
Oregon.....	108	83	77	127	102	96	90	103	100	90	88
Massachusetts.....	108	85	91	113	106	105	94	90	92	92	86
South Carolina.....	108	76	85	93	115	115	116	95	89	92	87
Utah.....	105	88	85	114	100	101	98	84	69	88	76
Pennsylvania.....	104	86	89	107	107	99	86	81	82	87	86
Virginia.....	103	79	81	99	111	99	118	86	103	107	95
New Jersey.....	102	86	93	100	114	92	86	81	80	88	84
Connecticut.....	101	75	73	101	103	98	84	80	84	87	81
New York.....	98	86	87	98	105	91	80	81	84	84	86
California.....	92	74	80	98	92	85	73	71	78	75	72
Washington.....	91	90	83	89	93	90	94	93	97	88	99

<sup>1</sup> Computed from life table mortality rates, 1919-20, United States Abridged Life Tables.

It is evident that there is a wide variation, from California and Washington, with no excess at all, to Kentucky with an excess at each age from 17 to 57 years. If we consider the three ages, 22, 27, and 32, at the period when the excess is most marked, we find that it is greatest in the central and Lake States (*cf.* fig. 5). New England and other Eastern States and also the far Western States have but slight tendency for an excess of the female rate over the male at these ages.

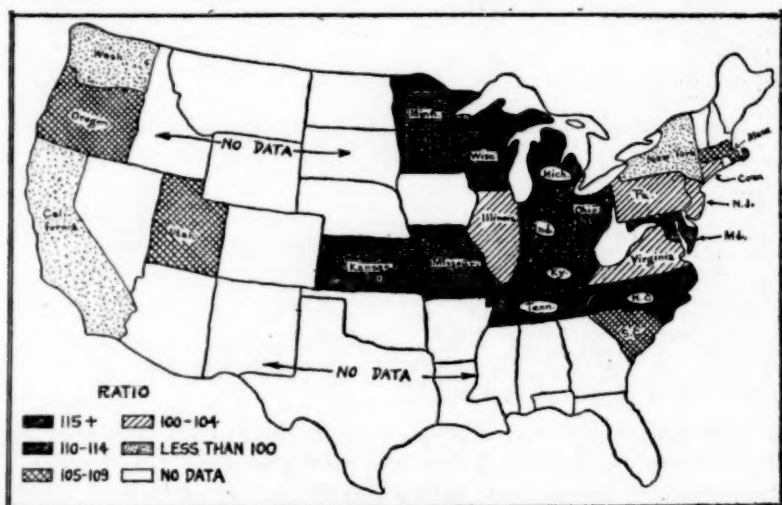


FIG. 5.—Ratio of mortality among white females to that among white males, in 23 States, 1919-20 (average of ratios for ages 22, 27, and 32).

This phenomenon is reflected in a number of causes of death, as is indicated in Table 7, based on the age group 20-24.<sup>10</sup> All causes showed a female excess rate of 31 per 100,000 in 1920; but in 1910 the male rate was in excess by 74 per 100,000. Hence, the change in the 10-year period is best indicated by subtracting algebraically the 1910 figures from the 1920 figures, as is done in the last column.

<sup>10</sup> The special rate volume of the Census Bureau, 1910-1920, from which these data were taken, does not give the age group 25-29 separately. Therefore, for this preliminary study, it was thought advisable to limit the table to the age group 20-24.

TABLE 7.—Mortality rates, 1910 and 1920, for the age group 20-24, by sex and cause, with excess rates, registration States of 1910.<sup>1</sup>

	Rate per 100,000.				Excess rate per 100,000.		
	1910		1920		1910 (Male ex- cess+).	1920 (Male ex- cess+).	Alge- braic differ- ence. <sup>2</sup>
	Male.	Female.	Male.	Female.			
All causes.....	571	497	517	548	+74	-31	-105
Violent causes (except suicide).....	150	17	114	21	+133	+93	-40
Tuberculosis (all forms).....	181	199	141	182	-18	-41	-23
Typhoid fever.....	47	26	9	7	+21	+2	-19
Influenza and pneumonia.....	39	25	111	116	+14	-5	-19
Puerperal conditions.....	.....	68	.....	82	-68	-82	-14
Children's diseases <sup>3</sup> .....	6	8	5	7	-2	-2	.....
Cancer.....	4	4	5	5	.....	.....	.....
Acute nephritis and Bright's disease..	15	18	10	13	-3	-3	.....
Heart, organic.....	21	23	21	22	-2	-1	+1
Diabetes.....	4	4	6	5	.....	+1	+1
Cerebral hemorrhage and softening.....	3	3	3	2	.....	+1	+1
All other.....	97	99	90	85	-2	+5	+7

<sup>1</sup> From mortality rates, 1910-1920. U. S. Bureau of the Census, Table IV.<sup>2</sup> 1920 excess minus 1910 excess.<sup>3</sup> Measles, scarlet fever, whooping cough, and diphtheria.

Violent causes and typhoid fever have only an adventitious relation to the phenomenon. In both, the male rates are greatly in excess, and in both there has been a marked decline in the last 10 years. On the other hand, there has been an increase in a condition limited to females—puerperal causes. Tuberculosis and influenza-pneumonia are the two other conditions evidently involved in the excess female mortality in the age group 20-24. This method of treatment does not relate the excesses among young adult females to the remainder of the age curve, but it may be stated that such a comparison does not change the relations to any great extent. In other words, in general, conditions showing an excess for the ages 20-24 do not show an excess throughout all ages, and are therefore involved in bringing about the peculiar rise in the female mortality curve from 20 to 30.

The reasons for this heavy mortality among young adult females, however, are obscure, and the table is meant merely to be suggestive. Extended study is required.

#### CONCLUSIONS.

The recently published life tables, then, reveal the following tendencies:

- (1) Continuation of the general improvement previously noted in expectation at birth.
- (2) A somewhat greater improvement in expectation at birth among colored persons of each sex than among white.
- (3) An increased length of life among persons of mature age—a group which in 1910 had shown a decrease in longevity.
- (4) A more rapid decline in mortality in cities than in rural districts.
- (5) A relatively greater mortality among women, especially at the ages from 20 to 30, than in 1910.

## A METHOD FOR THE ESTIMATION OF TOTAL SULPHUR IN NEOARSPHENAMINE AND SULPHARSPHENAMINE.

By ELIAS ELVOVE, Chemist, Hygienic Laboratory, United States Public Health Service.

In a previous communication<sup>1</sup> the writer described a simplified procedure for the estimation of sulphate in neoarsphenamine. As indicated in that paper, the primary object of the determination of sulphate in neoarsphenamine is to obtain figures which, together with other analytical data, will enable us to calculate the distribution of the sulphur in the neoarsphenamine. These other analytical data, as pointed out by Raiziss and Falkov,<sup>2</sup> include a determination of total sulphur. For determining the total sulphur, Raiziss and Falkov use the method of Carius. It seemed desirable to find another method for determining the total sulphur in neoarsphenamine which would be more suitable for routine work.

Hoffman and Gortner<sup>3</sup> have recently pointed out that one may overcome the objection to the Carius method that it is "a difficult determination" and the objection to the peroxide fusion method that it "is disagreeable, demands extreme care," etc., by adapting the Benedict-Denis method for determining sulphur in urine. In dealing with arsenic compounds containing sulphur, however, it would be a distinct advantage if we could utilize one oxidation process for quantitatively oxidizing the sulphur to sulphate and also the arsenic to arsenate under conditions which would permit the utilization of the very convenient iodometric method for determining the arsenic. This means, therefore, that the Benedict-Denis reagent<sup>4</sup> probably could not be used for this purpose, since the comparatively large amount of copper in the solution would probably interfere with the iodometric determination of the arsenic. Besides, the possibility that some nitrate or a small amount of nitrite might occasionally remain in the final solution would introduce another factor prejudicial to an accurate iodometric determination of the arsenic, even if we were able to control the interfering effects of the copper.

In this connection it occurred to the writer that the oxidation of the neoarsphenamine by means of permanganate as is done by the Lehmann method<sup>5</sup> for determining the arsenic in neoarsphenamine might be so modified that it would also oxidize quantitatively the sulphur in neoarsphenamine to sulphate. If, instead of using the Lehmann mixture of potassium permanganate and sulphuric acid, we were to use permanganate and hydrochloric acid, we would

<sup>1</sup> Jour. Ind. Eng. Chem., **14**, 624-625 (1922).

<sup>2</sup> Jour. Biol. Chem., **46**, 209-221 (1921).

<sup>3</sup> Jour. Amer. Chem. Soc., **45**, 1033-1036 (1923).

<sup>4</sup> This reagent is prepared by dissolving 25 gms. of crystalline copper nitrate, 25 gms. of sodium chloride, and 10 gms. of ammonium nitrate in enough water to make 100 c. c. Hoffman and Gortner use 10 c. c. of this reagent for a determination.

<sup>5</sup> Public Health Reports, **33**, 1012 (1913).

not only obtain the oxidizing action of the permanganic acid but could also have the advantage of the very powerful oxidizing action of nascent chlorine, with the additional advantage that the same oxidation process would enable us to determine both the arsenic and the sulphur. As a result of some preliminary experiments it appears that this plan is quite feasible. The procedure was as follows:

Placed 0.4 gm. of the neoarsphenamine (or sulpharsphenamine) in a wide, 400 c. c. beaker of Pyrex glass and dissolved <sup>6</sup> in 20 c. c. of 25 per cent sodium chloride.<sup>7</sup> Mixed with 150 c. c. of N/2 potassium permanganate.<sup>8</sup> Added 15 c. c. 5N HCl, mixed, and allowed to stand at room temperature for half an hour; then placed the beaker in a boiling water bath and kept it therein until the contents of the beaker evaporated to dryness.<sup>9</sup> Allowed the residue to cool to room temperature and then treated with 5 c. c. 5N HCl, followed by 50 c. c. distilled water. Detached the residue from the beaker with the aid of a stirring rod and mixed well. Carefully added 6 c. c. of 3 per cent hydrogen peroxide and carefully mixed the contents of the beaker with the stirring rod. Allowed to stand at room temperature, mixing the contents of the beaker with the stirring rod at frequent intervals until the reaction with the peroxide was nearly complete. Carefully heated to boiling and titrated the hot solution with N/2 KMnO<sub>4</sub>, finally adding a small but distinct excess of the permanganate. Heated again carefully to boiling and added N/2 oxalic acid slowly, drop by drop, until the solution became colorless. Filtered <sup>10</sup> into a 100 c. c. flask, finally making up to the mark with distilled water and mixing well. Pipetted out 50 c. c. into a 500 c. c. Erlenmeyer flask and reserved for the arsenic determination.

The remaining 50 c. c. of the solution (representing 0.2 gm. of the original sample) was transferred into a 400 c. c. beaker and diluted with distilled water to about 150 c. c., using the dilution water appropriately for washing out the 50 c. c. pipette and the flask. Heated the contents of the beaker to boiling and added slowly, drop by drop, 5 c. c. of 10 per cent barium chloride solution. Allowed

<sup>6</sup> Occasionally a sample was encountered which did not dissolve completely, but, by thoroughly mixing with the reagents, satisfactory results were obtained.

<sup>7</sup> 25 gms. NaCl to 100 c. c. of the solution.

<sup>8</sup> This solution was prepared by dissolving 15.8 gms. of the pure crystals per liter without any further standardization. By using hot water and finely powdering the solid, the latter readily goes into solution.

<sup>9</sup> The time required depends to some extent on how actively the water is boiling and on how deeply the beakers are immersed in the bath. In the case of the water bath which was available for this work, it usually required about five hours. Some determinations were purposely begun late in the afternoon so as to take advantage of the evening hours. The beakers were placed in the water bath just before leaving the laboratory and next morning they were all ready for the sulphur and arsenic determinations. It was found that in this way one could easily carry out twelve simultaneous determinations besides the controls.

<sup>10</sup> Since there is usually very little undissolved matter remaining at this point, the filtering can be carried out with little difficulty and seems preferable to using more peroxide and boiling until all is dissolved.



the precipitate to settle over night and then collected it in a Gooch crucible, dried, ignited, and weighed as  $\text{BaSO}_4$  in the usual way.

The 50 c. c. portion of the solution in the Erlenmeyer flask was used for determining the arsenic iodometrically as in the Lehmann method. This was carried out <sup>11</sup> by mixing with 10 c. c. concentrated  $\text{H}_2\text{SO}_4$ , cooling to room temperature, adding 2.5 gms. powdered potassium iodide, stoppering the flask and mixing until the iodide was dissolved, allowing to stand in a dark closet for an hour, and then titrating the liberated iodine with  $\text{N}/10 \text{ Na}_2\text{S}_2\text{O}_3$  as in the Lehmann method.<sup>12</sup>

In Table 1 are given the comparative results for total sulphur in samples of neoarsphenamine by the above method and by the sodium-peroxide method. The latter was carried out in a Parr bomb,<sup>13</sup> using potassium chlorate <sup>14</sup> as accelerator.

TABLE 1.—Comparison of results for total sulphur in neoarsphenamine by the sodium peroxide method and by the writer's method.

Manufacturer.	Total sulphur by sodium peroxide method.	Total sulphur by writer's method.	Difference.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
"A".....	8.76	8.79	+0.03
"B".....	7.32	7.40	+ .08
"C".....	11.02	10.97	— .05
"D".....	9.78	9.69	— .09
"E".....	5.84	5.82	— .02

<sup>1</sup> The comparative results in the case of the sample from manufacturer "E" were obtained by Mr. C. G. Remsburg of the Hygienic Laboratory.

The results given in Table 1 show a good agreement between the percentages for total sulphur by the peroxide method and by the writer's method. The slight differences are both plus and minus, and the magnitudes of these differences are quite within what may

<sup>11</sup> It appears that instead of adding 10 c. c. concentrated  $\text{H}_2\text{SO}_4$  and 2.5 gms. solid KI, equally good results may be obtained by using correspondingly more of a diluted  $\text{H}_2\text{SO}_4$  and a strong solution of KI. Thus in some of the experiments the titration was carried out by adding 20 c. c. of a diluted sulphuric acid (1 vol.  $\text{H}_2\text{SO}_4$  to 1 vol.  $\text{H}_2\text{O}$ ) and 10 c. c. of a 25 per cent solution of KI; but since the final acid concentration is thus made lower than in the Lehmann method, it appears preferable until further work has been done along this line, to use an acid concentration as nearly equal as possible to that used in the Lehmann method.

<sup>12</sup> A control determination was carried out simultaneously, with the object of ascertaining what correction to make for the possible presence of small amounts of sulphur in the reagents used. This control contained the same amounts of all of the reagents as were used in the actual determination, excepting that 25 c. c. 5N HCl were used instead of 15 c. c. This was done in order not to leave more of the unreduced manganese residue in the control than could well be worked up with the 6 c. c. hydrogen peroxide. Since the HCl was free from appreciable amounts of sulphur and arsenic, the use of this larger quantity of HCl could not appreciably affect the correction to be applied. This control received the same treatment as was accorded the solution containing the neoarsphenamine, with the result that one control solution was finally divided into two portions as in the actual determination and thus served both as control in the sulphur determination and also as control in the arsenic determination.

<sup>13</sup> The experience in this laboratory with the bomb method has been that it is likely to produce an explosion, especially after the fusion cup has been used a number of times. The determinations by means of the Parr bomb were carried out by Mr. C. G. Remsburg of the Hygienic Laboratory.

<sup>14</sup> J. Assoc. Official Agri. Chemists 5, 138 (1921).



be regarded as reasonable experimental errors. In Table 2 are given the comparative results for arsenic as determined by the ordinary Lehmann method and by the modification here proposed.

TABLE 2.—Comparison of results for arsenic in neoarsphenamine by the Lehmann method and by the modified method.

Manufacturer.	Percentage of arsenic by Lehmann method.	Percentage of arsenic by modified method.	Difference.
			<i>Per cent.</i>
"A".....	19.40	19.49	+0.09
"B".....	18.37	18.29	-.08
"C".....	18.43	18.46	+.03
"D".....	19.26	19.36	+.10

The results given in Table 2 show that the agreement in the figures for arsenic by the two methods was as good as that obtained in the case of the sulphur determinations. In Table 3 are given the comparative results for total sulphur by the two methods when these were applied to samples of sulpharsphenamine.

TABLE 3.—Comparison of results for total sulphur in sulpharsphenamine by the sodium peroxide method and by the writer's method.

Manufacturer.	Total sulphur by sodium peroxide method.	Total sulphur by writer's method.	Difference.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
"A".....	11.62	11.48	-0.14
"B".....	9.21	9.28	+.04
"C".....	10.59	10.76	+.17
"D".....	10.23	10.19	-.04
"E".....	12.72	12.64	-.08

The results given in Table 3 show that the proposed method for the determination of total sulphur is applicable to sulpharsphenamine as well as to neoarsphenamine. In Table 4 are given the comparative results for arsenic as determined by the ordinary Lehmann method and by the proposed modification when these were applied to sulpharsphenamine.

TABLE 4.—Comparison of results for arsenic in sulpharsphenamine by the Lehmann method and by the modified method.

Manufacturer.	Percentage of arsenic by Lehmann method.	Percentage of arsenic by modified method.	Difference.
			<i>Per cent.</i>
"A".....	22.15	21.89	-0.26
"B".....	19.81	19.42	-.39
"C".....	22.53	22.06	-.47
"D".....	22.58	22.72	+.14
"E".....	20.67	20.67	0.00

The results given in Table 4 show a few differences by the methods compared which are a little larger than those encountered in the preceding tables. But such differences apparently have been encountered by others. Thus, on comparing the Lehmann method with a gravimetric method, Myers and DuMez<sup>15</sup> obtained figures which, in some cases, differed by as much as 0.41 (20.34–19.93) and 0.42 (20.35–19.93) per cent. Likewise, in the comparative work carried out under the auspices of the Association of Official Agricultural Chemists,<sup>16</sup> the maximum and minimum figures for arsenic obtained on the same sample of neoarsphenamine by the Lehmann method were 19.5 and 18.6 per cent, or a difference of 0.9 per cent. It is difficult to tell whether the observed differences are due to the same causes as those in the Lehmann method<sup>17</sup> or to some variable factor which has not yet been sufficiently controlled. In using this method in its present form, therefore, one should bear in mind its possible limitations.

#### SUMMARY.

A method is described for determining total sulphur in neoarsphenamine and sulpharsphenamine which depends on the oxidation of the sample by means of permanganate and hydrochloric acid. The results obtained by this method agreed closely with those obtained by the sodium peroxide method. In addition to the advantage that it is more suitable than either the Carius or sodium peroxide method as a routine method for the simultaneous determination of total sulphur in a comparatively large number of samples, this method apparently has also the advantage that the required treatment of the sample is closely similar to that which is used in connection with the routine determination of arsenic, so that the same treatment prepares the sample for both the total sulphur and arsenic determinations.

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#### INCREASE IN AUTOMOBILE FATALITIES IN OHIO.

Returns compiled by the Bureau of the Census show that during 1922 there were 11,666 deaths resulting from accidents caused by automobiles and other motor vehicles (excluding motor cycles) in the death registration area of the United States (exclusive of Hawaii), that area comprising 85 per cent of the total population of continental United States in 1922. The death rate from this cause was 12.5 per 100,000 population in 1922, 11.5 in 1921, 10.4 in 1920, 9.4 in 1919,

<sup>15</sup> Pub. Health Reports, **33**, 1015 (1918).

<sup>16</sup> Jour. Assoc. Official Agr. Chemists, **6**, 463 (1923).

<sup>17</sup> Carrying out eight determinations on the same sample of neoarsphenamine by the Lehmann method, Mr. C. G. Remsburg, of this laboratory, obtained the following figures: 19.77, 19.96, 20.24, 20.33, 20.05, 20.05, 20.05, and 20.05 per cent, or a maximum difference of 0.56 per cent. In the case of another sample he obtained the following figures: 19.3, 19.11, 19.21, 18.83, 18.27, 18.46, 19.11, and 19.3 per cent, or a maximum difference of 1.03 per cent.

9.3 in 1918, and 9 in 1917. In the 27 States for which data for 1917 are available, the actual number of deaths from this cause increased from 6,014 in that year to 9,581 in 1922, the corresponding rates for these two years being 8.7 and 12.9, respectively, or an increase during the period of very nearly 50 per cent.

In a recent issue of Public Health Reports <sup>1</sup> the number of deaths from automobile accidents for continental United States for 1923 was estimated at 15,700. This estimate was based on an increase in 1923 over 1922 of 13.2 per cent in the death rate from this cause among a group of 15,000,000 insured persons.

The above figures, while showing the mortality from automobile accidents to be increasing at an alarming rate, do not relate the increase in the number of automobiles in use to the increased number of fatalities. The factor of increased number of automobiles evidently has two functions in the problem—one, that of increasing the number of fatalities in the same ratio as that of the increase in the number of automobiles; the other function involving an increase in fatalities due to the increased congestion of traffic.

These relationships as obtaining in the State of Ohio are graphically presented by means of a chart recently issued by the Ohio Public Health Association of Columbus, in a campaign directed against this appalling waste of life. The figures for that State for the years 1922 and 1923 are given as follows:

Total automobiles, 1923...	1, 070, 636	Total fatalities, 1923.....	1, 078
Total automobiles, 1922...	858, 743	Total fatalities, 1922.....	833
Increase in number of automobiles.....		Increase in fatalities ....	
	211, 893		245
Percentage increase in automobiles .....		24	
Percentage increase in fatalities .....		29	

These figures show a percentage increase in automobile fatalities in 1923 over 1922 considerably larger than the percentage increase in the number of automobiles.

The Ohio Health News of March 28, 1924, published by the Ohio Public Health Association, contains the following statements:

"According to statistics compiled by the State bureau of vital statistics for 1923, Ohio's death rate due to automobile accidents was 17.6 per hundred thousand population as against a rate of 13.8 for 1922.

"There were 1,078 killed in automobile accidents in Ohio in 1923, as against 833 killed in 1922, an increase of 245. And this does not include 157 killed in automobile collisions with trains and interurban cars which are charged to railroad accidents.

"Higher mortality from automobile accidents has been a factor in increasing the general death rate of Ohio during the past year.

<sup>1</sup> Feb. 22, 1924, pp. 352-53.

<sup>2</sup> Corrected from original figure.—Ed.

"Voluntary health agencies are urged to cooperate with public authorities and civic bodies in safety campaigns and any other measures designed to curb this new menace. If a controllable disease were causing an increase in the death rate equal to the automobile death rate, quarantine would be resorted to and radical measures taken to safeguard human lives. This may not be a health function, but the health agency is at least justified in calling attention to the problem."

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#### **RESOLUTION ON LEGITIMATE NEEDS FOR OPIUM ADOPTED BY THE HEALTH COMMITTEE OF THE LEAGUE OF NATIONS.**

The following is taken from a recent report of the first session of the new Health Committee of the League of Nations, held at Geneva in February, 1924, and relates to the "legitimate" needs of the various countries with respect to opium and its derivatives. The report was adopted by the Council of the League of Nations.

"The Committee has considered the report presented by the Mixed Subcommittee, composed of two members of the Advisory Committee on Opium and two members of the Provisional Health Committee. This report deals with the question of the legitimate needs of various countries in respect of opium and its derivatives; it is drawn up on the basis of the replies submitted by the Governments and the special enquiries undertaken by the Health Committee.

"The Committee has adopted the following resolution:

'The Health Committee having taken note of a report on the work of the Mixed Subcommittee on Opium and of the enquiries which it has set on foot with a view to determining the legitimate requirements of the various countries of opium and opium derivatives, it being understood that legitimate requirements are to be taken as meaning medical and scientific requirements alone;

'Notes that it is impossible, with the data now available, to determine accurately any figure representing legitimate requirements;

'Considers that, in fact, the estimate of 600 mgrs. of raw opium per head per annum adopted by the Mixed Subcommittee considerably exceeds the quantities necessary for those requirements,

'And considers that this estimate ought to be reduced to 450 mgrs., it being understood that this figure represents a maximum and that, as it has been established solely on the basis of the estimate given by countries which have a highly developed system of medical aid, it can only be applied to countries in which similar conditions exist.

'The Committee further considers that since this figure is required essentially in order to arrive at a reduction in the world production of opium and the manufacture of its derivatives, it should be regarded exclusively from this point of view and not as a guide to the legitimate consumption of any given country.'

"The Committee decides to refer to a later session the consideration of the remaining conclusions of the Opium Mixed Subcommittee (as to cocaine, heroin, etc.)."

## "HEALERS" OF TUBERCULOSIS.

"For some time past, tuberculosis victims or suspects have been exploited by so-called 'healers' (becoming every day more numerous), who offer alleged remedies, vaccines or serums, the mode of preparing which is kept secret," writes the Paris correspondent of the Journal of the American Medical Association. Owing to the advertisement of Gabrilovitch tuberculin, offered as "the truly curative and truly specific remedy," and to discussion in the press concerning the Spahlinger treatment, two leading French tuberculosis associations have published a protest stating that there does not exist at present any remedy, chemical or biologic, or any serum or vaccine, whose effectiveness in the treatment of tuberculosis has been demonstrated. They caution patients against the dangers to which they expose themselves by wasting money and losing precious time in trying therapeutic agents that are useless and often actually harmful. (—Reprinted from the Baltimore Health News for April, 1924, published by the Baltimore City Health Department.)

### DEATHS DURING WEEK ENDED MARCH 29, 1924.

*Summary of information received by telegraph from industrial insurance companies for week ended March 29, 1924, and corresponding week of 1923. (From the Weekly Health Index, April 1, 1924, issued by the Bureau of the Census, Department of Commerce.)*

	Week ended March 29, 1924.	Corresponding week, 1923.
Policies in force.....	56, 792, 140	52, 684, 286
Number of death claims.....	11, 996	11, 462
Death claims per 1,000 policies in force, annual rate.....	11. 0	11. 3

*Deaths from all causes in certain large cities of the United States during the week ended March 29, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, April 1, 1924, issued by the Bureau of the Census, Department of Commerce.)*

City.	Week ended Mar. 29, 1924.		Annual death rate per 1,000, corresponding week, 1923.	Death under 1 year.		Infant mortality rate, week ended Mar. 29, 1924. <sup>3</sup>
	Total deaths.	Death rate. <sup>1</sup>		Week ended Mar. 29, 1924.	Corresponding week, 1923.	
Total (64 cities).....	7, 710	14. 9	14. 4	992	893	
Akron.....	33			10	4	105
Albany.....	43	18. 9	17. 3	3	2	66
Atlanta.....	89	20. 4	13. 8	11	5	
Baltimore.....	274	18. 2	15. 2	28	29	81
Birmingham.....	63	16. 4	17. 3	7	9	
Boston.....	231	15. 5	18. 7	32	32	89
Bridgeport.....	40			4	5	63
Buffalo.....	140	13. 4	14. 1	33	21	140
Cambridge.....	26	12. 1	13. 6	3	1	52
Camden.....	42	17. 3	13. 4	4	4	63
Canterbury.....	18	9. 1	6. 8	4	3	84

<sup>1</sup> Annual rate per 1,000 population.

<sup>2</sup> Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1923. Cities left blank are not in the registration area for births.

<sup>3</sup> Data for 64 cities

<sup>4</sup> Deaths for week ended Friday, Mar. 28, 1924.

Deaths from all causes in certain large cities of the United States during the week ended March 29, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, April 1, 1924, issued by the Bureau of the Census, Department of Commerce)—Continued.

City.	Week ended Mar. 29, 1924.		Annual death rate per 1,000, cor- responding week, 1923.	Death under 1 year.		Infant mor- tality rate, week ended Mar. 29, 1924.
	Total deaths.	Death rate.		Week ended Mar. 29, 1924.	Cor- responding week, 1923.	
Chicago <sup>1</sup> .....	749	13.3	13.6	99	101	91
Cincinnati.....	139	17.8	17.2	18	19	113
Cleveland.....	227	13.0	10.6	31	21	81
Columbus.....	89	17.4	18.2	5	8	48
Dallas.....	55	15.3	12.9	12	3	
Dayton.....	40	12.3	10.7	8	4	134
Denver.....	88			12	11	
Des Moines.....	39	14.0	13.7	5	6	
Detroit.....	281			70	38	130
Duluth.....	28	13.5	11.8	3	2	64
Erie.....	28			4	3	82
Fall River <sup>1</sup> .....	27	11.6	19.4	8	7	113
Flint.....	23			5	3	86
Fort Worth.....	23	8.1	12.3	2	3	
Grand Rapids.....	36	12.7	12.5	6	3	93
Houston.....	40			6	7	
Indianapolis.....	112	16.7	16.6	18	9	136
Jacksonville, Fla.....	41	20.9	15.1	3	5	
Jersey City.....	85	14.2	13.8	15	13	109
Kansas City, Mo.....	104	15.1	13.2	22	5	
Los Angeles.....	232			28	22	87
Louisville.....	89	16.1	16.8	10	11	96
Lowell.....	31	14.0	15.0	6	4	107
Lynn.....	22	11.1	13.2	1	3	25
Memphis.....	70	21.2	24.5	10	4	
Milwaukee.....	96	10.2	14.1	11	27	50
Minneapolis.....	96	12.0	13.6	12	13	64
Nashville <sup>1</sup> .....	43	18.2	23.8	4	8	
New Bedford.....	33	13.0	14.4	6	11	94
New Haven.....	51	13.1	12.4	11	5	144
New Orleans.....	191	24.3	16.8	24	15	
New York.....	1,699	14.7	13.2	251	190	93
Bronx Borough.....	207	12.4	11.1	19	7	67
Brooklyn Borough.....	582	13.8	12.0	81	72	87
Manhattan Borough.....	742	17.1	15.4	115	92	112
Queens Borough.....	122	11.6	11.0	12	13	66
Richmond Borough.....	46	18.4	16.8	4	6	73
Newark, N. J.....	121	14.2	11.9	19	9	89
Norfolk.....	42	13.3	11.5	2	2	36
Oakland.....	33	11.2	10.9	6	2	75
Oklahoma City.....	26	13.0		2		
Omaha.....	68	17.0	15.6	4	9	43
Paterson.....	33	12.2	13.1	4	4	65
Philadelphia.....	599	16.0	18.0	58	82	74
Pittsburgh.....	296	22.2	14.5	52	24	176
Portland, Oreg.....	72	13.5	16.2	7	8	72
Providence.....	70	15.0	17.9	10	10	81
Richmond.....	53	15.0	13.5	5	5	59
Rochester.....	87	13.9	10.8	8	12	63
St. Louis.....	235	16.4	13.2	19	18	
St. Paul.....	61	13.0	14.9	5	7	43
Salt Lake City <sup>1</sup> .....	36	14.6	18.6	3	5	50
San Antonio.....	58	15.8	15.0	1	6	
San Francisco.....	127	12.1	15.0	5	7	39
Schenectady.....	26	13.5	13.7	7	3	199
Somerville.....	18	9.3	14.2	5	5	136
Spokane.....	27			2	5	42
Springfield, Mass.....	47	16.5	16.6	9	7	152
Syracuse.....	53	14.7	12.4	6	4	74
Tacoma.....	23	11.6	9.2		1	
Toledo.....	80	15.1	13.0	13	10	123
Trenton.....	37	14.9	19.2	6	8	98
Utica.....	34	16.8	17.6	3	6	65
Washington, D. C.....	126	13.5	17.6	10	16	58
Waterbury.....	20			4	2	89
Wilmington, Del.....	30	13.0	15.5	3	5	65
Yonkers.....	30	14.3	12.6	8	5	175
Youngstown.....	46	15.5	12.5	6	7	87

<sup>1</sup> Deaths for week ended Friday, Mar. 28, 1924.



# PREVALENCE OF DISEASE.

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.*

## UNITED STATES.

### CURRENT STATE SUMMARIES.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

#### Reports for Week Ended April 5, 1924.

ALABAMA.		ARKANSAS—continued.	
	Cases.		Cases.
Chicken pox.....	90	Scarlet fever.....	5
Diphtheria.....	6	Smallpox.....	14
Influenza.....	62	Trachoma.....	1
Malaria.....	12	Tuberculosis.....	13
Measles.....	497	Typhoid fever.....	6
Mumps.....	96	Whooping cough.....	37
Pellagra.....	3		
Pneumonia.....	119	CALIFORNIA	
Scarlet fever.....	6	Cerebrospinal meningitis—San Francisco....	4
Smallpox.....	64	Diphtheria.....	207
Tuberculosis.....	35	Influenza.....	19
Typhoid fever.....	8	Lethargic encephalitis:	
Whooping cough.....	45	Berkeley.....	1
		Oakland.....	1
ARIZONA.		San Francisco.....	1
Chicken pox.....	4	Sonoma County.....	1
Diphtheria.....	7	Measles.....	1,106
Influenza.....	5	Scarlet fever.....	239
Measles.....	150	Smallpox:	
Mumps.....	8	Long Beach.....	10
Pneumonia.....	3	Los Angeles.....	127
Scarlet fever.....	14	Los Angeles County.....	43
Smallpox.....	2	National City.....	8
Trachoma.....	63	Scattering.....	57
Tuberculosis.....	13	Typhoid fever:	
Whooping cough.....	2	Santa Ana.....	59
		Orange County.....	10
ARKANSAS.		Scattering.....	11
Chicken pox.....	35	Typhus fever—Los Angeles.....	1
Diphtheria.....	2		
Hookworm disease.....	1	COLORADO.	
Influenza.....	102	(Exclusive of Denver.)	
Malaria.....	33	Chicken pox.....	19
Measles.....	434	Diphtheria.....	24
Mumps.....	30	Influenza.....	3
Paratyphoid fever.....	2	Measles.....	246
Pellagra.....	2		

COLORADO—continued.		GEORGIA—continued.	
	Cases.		Cases.
Mumps.....	41	Malaria.....	31
Pneumonia.....	12	Measles.....	106
Scarlet fever.....	26	Mumps.....	32
Smallpox.....	2	Pneumonia.....	46
Trachoma.....	2	Scarlet fever.....	11
Tuberculosis.....	53	Septic sore throat.....	6
Typhoid fever.....	2	Smallpox.....	167
Whooping cough.....	29	Tuberculosis (all forms).....	18
		Typhoid fever.....	2
		Whooping cough.....	29
CONNECTICUT.		ILLINOIS.	
Cerebrospinal meningitis.....	1	Cerebrospinal meningitis—Will County.....	
Chicken pox.....	59	Diphtheria:	
Conjunctivitis (infectious).....	2	Cook County.....	81
Diphtheria.....	38	Scattering.....	45
German measles.....	9	Influenza.....	34
Influenza.....	17	Lethargic encephalitis—Cook County.....	3
Measles.....	154	Measles.....	707
Mumps.....	170	Pneumonia.....	401
Pneumonia (lobar).....	54	Scarlet fever:	
Poliomyelitis.....	1	Cook County.....	130
Scarlet fever.....	156	De Kalb County.....	9
Septic sore throat.....	1	Kane County.....	26
Smallpox.....	5	Macon County.....	11
Trichinosis.....	2	Scattering.....	91
Tuberculosis (all forms).....	22	Smallpox:	
Whooping cough.....	29	Chicago.....	9
		Scattering.....	9
		Tuberculosis.....	275
		Typhoid fever.....	10
		Whooping cough.....	118
DELAWARE.		INDIANA.	
Chicken pox.....	2	Chicken pox.....	126
Diphtheria.....	2	Diphtheria:	
Influenza.....	5	Allen County.....	10
Measles.....	5	Marion County.....	15
Mumps.....	4	Scattering.....	53
Pneumonia.....	3	Influenza.....	57
Scarlet fever.....	9	Measles.....	1,007
Tuberculosis.....	6	Pneumonia.....	42
Whooping cough.....	5	Scarlet fever:	
		Elkhart County.....	14
		Lake County.....	26
		Marion County.....	12
		Montgomery County.....	20
		St. Joseph County.....	31
		Scattering.....	65
		Smallpox:	
		Delaware County.....	35
		Fayette County.....	8
		Marion County.....	57
		Scattering.....	56
		Tuberculosis.....	45
		Typhoid fever:	
		Lake County.....	15
		Scattering.....	2
		Whooping cough.....	101
DISTRICT OF COLUMBIA.		IOWA.	
Chicken pox.....	55	Diphtheria.....	4
Diphtheria.....	14	Scarlet fever.....	52
Influenza.....	1	Smallpox.....	18
Lethargic encephalitis.....	1	Typhoid fever.....	1
Measles.....	23		
Scarlet fever.....	49		
Smallpox.....	19		
Tuberculosis.....	20		
Typhoid fever.....	2		
Whooping cough.....	14		
FLORIDA.			
Diphtheria.....	9		
Influenza.....	5		
Malaria.....	13		
Pneumonia.....	5		
Scarlet fever.....	8		
Smallpox.....	10		
Typhoid fever.....	5		
GEORGIA.			
Chicken pox.....	25		
Dengue.....	1		
Diphtheria.....	9		
Dysentery (bacillary).....	4		
German measles.....	11		
Hookworm disease.....	37		
Influenza.....	31		

KANSAS.		MASSACHUSETTS.	
	Cases.		Cases.
Cerebrospinal meningitis .....	2	Cerebrospinal meningitis .....	1
Chicken pox .....	110	Chicken pox .....	213
Diphtheria .....	38	Conjunctivitis (suppurative) .....	6
German measles .....	1	Diphtheria .....	171
Influenza .....	7	German measles .....	85
Lethargic encephalitis .....	1	Influenza .....	14
Measles .....	1,005	Lethargic encephalitis .....	1
Mumps .....	369	Measles .....	999
Pneumonia .....	32	Mumps .....	410
Scarlet fever .....	78	Ophthalmia neonatorum .....	21
Smallpox .....	49	Pneumonia (lobar) .....	152
Tuberculosis .....	55	Scarlet fever .....	463
Typhoid fever .....	9	Septic sore throat .....	12
Whooping cough .....	67	Tetanus .....	2
		Trachoma .....	2
		Trichinosis .....	1
		Tuberculosis (all forms) .....	137
		Typhoid fever .....	6
		Whooping cough .....	111
		MICHIGAN.	
		Diphtheria .....	140
		Measles .....	1078
		Pneumonia .....	223
		Scarlet fever .....	412
		Smallpox .....	154
		Tuberculosis .....	235
		Typhoid fever .....	11
		Whooping cough .....	109
		MINNESOTA.	
		Chicken pox .....	85
		Diphtheria .....	53
		Influenza .....	1
		Measles .....	229
		Pneumonia .....	10
		Scarlet fever .....	213
		Smallpox .....	50
		Tuberculosis .....	144
		Typhoid fever .....	4
		Whooping cough .....	10
		MISSISSIPPI.	
		Diphtheria .....	9
		Scarlet fever .....	7
		Smallpox .....	10
		Typhoid fever .....	9
		MISSOURI.	
		Cerebrospinal meningitis .....	2
		Chicken pox .....	33
		Diphtheria .....	38
		Influenza .....	23
		Measles .....	463
		Mumps .....	164
		Pneumonia .....	21
		Rabies .....	1
		Scarlet fever .....	134
		Smallpox .....	18
		Trachoma .....	1
		Tuberculosis .....	35
		Typhoid fever .....	3
		Whooping cough .....	75
LOUISIANA.			
Diphtheria .....	20		
Hookworm disease .....	58		
Influenza .....	14		
Leprosy .....	1		
Malaria .....	15		
Measles .....	238		
Pneumonia .....	64		
Scarlet fever .....	8		
Smallpox .....	20		
Tuberculosis .....	23		
Typhoid fever .....	11		
Whooping cough .....	6		
MAINE.			
Cerebrospinal meningitis .....	1		
Chicken pox .....	26		
Diphtheria .....	13		
German measles .....	17		
Measles .....	169		
Mumps .....	46		
Pneumonia .....	8		
Scarlet fever .....	33		
Tuberculosis .....	7		
Typhoid fever .....	1		
Vincent's angina .....	1		
Whooping cough .....	24		
MARYLAND. <sup>1</sup>			
Cerebrospinal meningitis .....	1		
Chicken pox .....	127		
Diphtheria .....	31		
German measles .....	85		
Influenza .....	64		
Malaria .....	3		
Measles .....	318		
Mumps .....	39		
Pneumonia (all forms) .....	127		
Scarlet fever .....	129		
Septic sore throat .....	2		
Smallpox .....	4		
Tuberculosis .....	63		
Typhoid fever .....	2		
Vincent's angina .....	2		
Whooping cough .....	50		

<sup>1</sup>Week ended Friday.

MONTANA		OREGON.	
	Cases.		Cases.
Diphtheria.....	11	Chicken pox.....	23
Scarlet fever.....	30	Diphtheria:	
Smallpox.....	27	Portland.....	13
Typhoid fever.....	1	Scattering.....	10
NEBRASKA.		Influenza.....	9
Chicken pox.....	16	Measles.....	186
Diphtheria.....	8	Mumps.....	8
Influenza.....	2	Pneumonia.....	15
Measles.....	316	Scarlet fever:	
Mumps.....	1	Portland.....	8
Pneumonia.....	2	Scattering.....	8
Scarlet fever.....	21	Smallpox:	
Smallpox.....	13	Portland.....	10
Tuberculosis.....	3	Scattering.....	4
NEW JERSEY.		Tuberculosis.....	7
Cerebrospinal meningitis.....	3	Typhoid fever.....	4
Chicken pox.....	233	Whooping cough.....	3
Diphtheria.....	113	SOUTH DAKOTA.	
Influenza.....	28	Chicken pox.....	12
Malaria.....	2	Diphtheria.....	14
Measles.....	654	Measles.....	201
Pneumonia.....	221	Pneumonia.....	7
Scarlet fever.....	203	Scarlet fever.....	52
Trachoma.....	1	Smallpox.....	3
Typhoid fever.....	3	Tuberculosis.....	6
Whooping cough.....	109	Typhoid fever.....	1
NEW MEXICO.		Whooping cough.....	6
Cerebrospinal meningitis.....	1	TEXAS.	
Chicken pox.....	21	Chicken pox.....	101
Conjunctivitis.....	1	Diphtheria.....	45
Diphtheria.....	10	Influenza.....	90
Measles.....	283	Lethargic encephalitis.....	2
Mumps.....	5	Measles.....	498
Pneumonia.....	11	Mumps.....	132
Scarlet fever.....	6	Ophthalmia neonatorum.....	6
Tuberculosis.....	20	Pellagra.....	1
Whooping cough.....	2	Pneumonia.....	57
NEW YORK.		Scarlet fever.....	15
(Exclusive of New York City and Rochester.)		Smallpox.....	75
Cerebrospinal meningitis.....	2	Trachoma.....	13
Diphtheria.....	102	Tuberculosis.....	92
Influenza.....	43	Typhoid fever.....	2
Lethargic encephalitis.....	1	Whooping cough.....	41
Measles.....	1,462	VERMONT.	
Pneumonia.....	331	Chicken pox.....	24
Polioomyelitis.....	1	Diphtheria.....	1
Scarlet fever.....	439	Measles.....	139
Smallpox.....	4	Mumps.....	6
Typhoid fever.....	20	Scarlet fever.....	13
Whooping cough.....	341	Whooping cough.....	28
NORTH CAROLINA.		WASHINGTON.	
Cerebrospinal meningitis.....	2	Chicken pox.....	67
Chicken pox.....	201	Diphtheria.....	28
Diphtheria.....	18	Measles.....	156
German measles.....	1	Mumps.....	18
Measles.....	1,992	Pneumonia.....	2
Scarlet fever.....	77	Scarlet fever:	
Septic sore throat.....	6	Spokane.....	18
Smallpox.....	169	Scattering.....	17
Typhoid fever.....	6	Smallpox:	
Whooping cough.....	410	Spokane.....	26
Deaths.		Scattering.....	23

WASHINGTON—continued.		WISCONSIN—continued.	
	Cases.	Scattering:	Cases.
Tuberculosis.....	78	Chicken pox.....	117
Typhoid fever.....	2	Diphtheria.....	38
Whooping cough.....	8	German measles.....	29
WEST VIRGINIA.		Influenza.....	37
Cerebrospinal meningitis—Charleston.....	1	Lethargic encephalitis.....	1
Diphtheria.....	6	Measles.....	373
Scarlet fever.....	8	Ophthalmia neonatorum.....	1
Smallpox.....	1	Pneumonia.....	36
Typhoid fever.....	4	Scarlet fever.....	224
WISCONSIN.		Smallpox.....	32
Milwaukee:		Tuberculosis.....	26
Cerebrospinal meningitis.....	1	Typhoid fever.....	5
Chicken pox.....	61	Whooping cough.....	119
Diphtheria.....	15	WYOMING.	
German measles.....	1	Chicken pox.....	15
Measles.....	41	Diphtheria.....	1
Ophthalmia neonatorum.....	2	Lethargic encephalitis.....	1
Pneumonia.....	10	Measles.....	114
Scarlet fever.....	22	Mumps.....	23
Smallpox.....	1	Pneumonia.....	8
Tuberculosis.....	22	Scarlet fever.....	5
Typhoid fever.....	1	Whooping cough.....	7
Whooping cough.....	30		

## Report for week ended March 29, 1924.

NORTH DAKOTA.		NORTH DAKOTA—continued.	
	Cases.		Cases.
Chicken pox.....	23	Pneumonia.....	21
Diphtheria.....	18	Scarlet fever.....	48
German measles.....	11	Smallpox.....	5
Measles.....	234	Tuberculosis.....	2
Mumps.....	10	Whooping cough.....	8

## SUMMARY OF CASES REPORTED MONTHLY BY STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Polio-myelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
<i>February, 1924.</i>										
Colorado.....		128	9		2,340			228	6	17
Hawaii.....	12	28	147		10			1		12
North Carolina.....	1	157			8,098			185	686	9
Ohio.....	4	723	78	0	1,122	0	2	1,751	514	47
Pennsylvania.....	10	1,449		0	2,981	0	1	2,298	11	127
Virginia.....	5	219	4,283	75	3,235	11	5	213	33	41
<i>March, 1924.</i>										
Connecticut.....	7	196	49		782		2	806	29	13
District of Columbia.....	0	31	16		59	0		169	40	7

**SMALLPOX IN DETROIT, MICH.**

The following table gives a summary of the number of cases of smallpox reported in Detroit, Mich., from September 1, 1923, to March 15, 1924:

	Cases.	Deaths.
September, 1923.....	11	-----
October, 1923.....	20	-----
November, 1923.....	51	-----
December, 1923.....	82	-----
January, 1924.....	139	1
February, 1924.....	267	2
Mar. 1 to 15, 1924.....	140	1
Total.....	710	4

The average number of cases reported in Detroit for the past five years was as follows:

December.....	52
January.....	53
February.....	58
March (entire month).....	79

The January death was a case complicated with pneumonia. The February deaths were hemorrhagic cases, one of which was a member of the same family in which so many cases and deaths occurred in Windsor, Ontario. The other February death was a paralytic woman who had not been out of her house for about a year. The source of infection was not established. The patient dying in March was the husband of the Windsor infection case dying in February.

The situation in Windsor, Ontario, is briefly summarized as follows:

From the beginning of the outbreak in Windsor, about December 12, until March 15, there were 67 cases of smallpox in Windsor and vicinity. Of these 67 cases, 22 resulted in death. All of the deaths occurred in unvaccinated persons.

Vaccination campaigns have been conducted in Windsor and adjacent municipalities. From February 27 to March 17 officers of the Public Health Service operated free vaccination stations at the wharves.

**MORBIDITY REPORTS FROM CITIES.**

Reports of the prevalence of communicable diseases in 105 cities, having an aggregate population of nearly 29,000,000, for the week ended March 22, 1924, show little change from the preceding week. Five hundred and sixty-five cases of smallpox were reported for the week by these cities, more than half of these cases being reported from four cities—Indianapolis, Atlanta, Detroit, and Los Angeles. The estimated expectancy for the 105 cities, based on reports for



the last nine years, was only 193 cases. During the corresponding week of last year these cities reported only 100 cases.

The reports for the week indicate that diphtheria was slightly more prevalent in the cities than it was during the corresponding week of last year.

The number of cases of scarlet fever reported for the week was more than 16 per cent higher than the number reported for the corresponding week of last year and 78 per cent higher than the estimated expectancy.

*Deaths, all causes.*—The Bulletin of the Metropolitan Life Insurance Co. for the week ended March 15, 1924, says:

"That the public health situation of 1924, to date, is without precedent becomes more and more evident each week. \* \* \*

"Decreases [from the corresponding period of 1923] have been recorded for all of the diseases of numerical importance. The greatest drops in the death rate have been those for organic heart disease, pneumonia, and influenza, but very considerable decreases have been recorded for tuberculosis, cerebral hemorrhage, and chronic nephritis. Even the cancer rate, so far this year, shows improvement. A favorable record is in evidence, also, for the diseases of chief public health interest, namely, typhoid fever, measles, diphtheria, and puerperal causes. There has been a slight rise in the scarlet fever rate.

"In the field of violent deaths slight declines are in evidence for suicides and homicides. The cumulative death rate for accidents still exceeds that recorded at this time in 1923, but the excess is small, and the mortality in recent weeks has been much more favorable than in January and February. The rate for automobile fatalities is now 10.4 per 100,000, which is 8.3 per cent in excess of that for the same weeks of 1923."

## City reports for week ended March 22, 1924.

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence how many cases of the disease under consideration may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding week of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1915 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city.	Chicken pox, cases reported.	Diphtheria.		Influenza.		Measles, cases reported.	Mumps, cases reported.	Pneumonia, deaths reported.	Scarlet fever.	
		Cases, estimated expectancy.	Cases reported.	Cases reported.	Deaths reported.				Cases, estimated expectancy.	Cases reported.
<b>New England:</b>										
Maine—										
Lewiston...	0	2	0	0	0	9	0	0	1	1
Portland...	10	1	3	1	0	1	30	5	3	0
New Hampshire—										
Concord...	0	0	0	0	0	58	0	1	1	0
Manchester...	0	2	1	0	0	13	0	3	2	2
Vermont—										
Barre...	1	0	0	0	0	3	0	0	1	0
Burlington...	1	1	0	0	0	1	0	2	0	2
Massachusetts—										
Boston...	49	63	78	4	1	197	29	21	58	115
Fall River...	0	4	7	2	2	18	2	6	3	16
Springfield...	5	4	3	1	1	90	5	2	6	27
Worcester...		5	18	3	0	8		5	8	28
Rhode Island—										
Pawtucket...		1	3	0	0	1		0	1	2
Providence...	0	11	6	0	0	0	0	10	8	66
Connecticut—										
Bridgeport...	0	7	6	0	0	1	0	0	5	9
Hartford...		8	9	0	0	46		7	6	62
New Haven...	8	2	2		1	7	67	10	4	12
<b>Middle Atlantic:</b>										
New York—										
Buffalo...	0	14	8		1	33	0	16	18	19
New York...	270	281	205	83	12	2,091	259	242	202	307
Rochester...	3	9	0	0	0	7	8	12	12	22
Syracuse...	38	7	8	0	0	43	8	1	17	42
New Jersey—										
Camden...		3	13	0	0	0		7	2	3
Newark...	55	21	15	15	0	86	142	8	26	20
Trenton...	2	5	10	0	0	33	0	3	4	3
Pennsylvania—										
Philadel-										
phia...	126	73	117	2	8	139	0	89	61	76
Pittsburgh...	63	21	34		7	31	130	117	20	36
Reading...	0	3	5	0	0	4	0	0	3	4
Scranton...	15	3	2		1	13	0	3	4	5
<b>East North Central:</b>										
Ohio—										
Cincinnati...	12	13	12	1	1	134	25	9	11	11
Cleveland...	115	27	24	6	2	51	295	35	34	17
Columbus...	5	4	4	0	0	2	0	7	8	14
Toledo...	53	4	10		1	38	2	5	12	13
Indiana—										
Fort Wayne...		3	2	0	0	12		1	2	6
Indianapo-										
lis...		10	2		1	72		14	14	5
South Bend...		1	6	0	0	1		1	3	10
Terre										
Haute...	2	1	0	0	0	6	0	2	4	1
Illinois—										
Chicago...	164	97	98	33	6	136	146	89	121	139
Cicero...	7	2	6	0	0	0	36	0	3	2
Springfield...	11	1	2	1	1	3	0	1	2	0
Michigan—										
Detroit...	74	61	55	2	0	187	105	44	71	94
Flint...	10	5	3		1	27	36	3	8	9
Grand Rap-	15	2	2		1	1	47	2	9	17
ids										
Saginaw...	0	1	0	0	0	13	3	4	2	47

## City reports for week ended March 22, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.	
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.
East North Central—Continued.										
Wisconsin—										
Madison...	13	1	4	0	0	1	1	0	3	7
Milwaukee...	39	14	14	0	0	26	13	14	33	22
Racine...	15	1	1	0	0	0	0	2	5	18
Superior...		1	0	0	0	0		2	2	4
West North Central:										
Minnesota—										
Duluth...		1	0	0	0	1		1	5	12
Minneapolis...	72	15	13	0	0	41	8	5	27	70
St. Paul...		13	21	0	0	37		7	23	67
Iowa—										
Davenport...		1	1	0		0			3	1
Des Moines...	0	3	1	0		1	0		9	0
Sioux City...		1							3	
Waterloo...	1	0	1	0		4	26		4	3
Missouri—										
Kansas										
City...	16	9	5	2	2	100	20	24	0	17
St. Joseph...	0	1	0		1	5	4	2	3	1
St. Louis...	30	59	32	1	0	64	46		28	90
North Dakota—										
Fargo...	0	2	0	0	0	0	0	2	3	0
Grand Forks...	0	1	0	0		31	0		1	0
South Dakota—										
Sioux Falls...		0	0	0	0	2		0	3	1
Nebraska—										
Lincoln...	0	2	5	0	0	30	0	1	4	2
Omaha...	6	4	3	0	0	128	0	5	10	0
Kansas—										
Topeka...	13	1	2	0	0	339	1	3	2	0
Wichita...	5	1	6	0	0	171	154	5	2	7
South Atlantic:										
Delaware—										
Wilmington...		2	5	0	0	2		4	3	8
Maryland—										
Baltimore...	163	24	28	26	6	225	27	39	34	108
Frederick...		1	0	0	0	16		0	0	10
Dist. of Col.—										
Washington...	77	11	8	3	2	18	0	28	20	41
Virginia—										
Lynchburg...	1	1	0	0	0	2	2	0	0	1
Norfolk...	21	1	0	0	0	72	6	7	2	2
Richmond...	10	2	3		1	38	0	6	2	4
Roanoke...	5	1	1		2	1	2	2	1	4
West Virginia—										
Charleston...	8	1	2	0	0	1	0	4	1	0
Huntington...		1	0		1	4		4	1	0
Wheeling...	1	2	1		2	3	2	4	1	1
North Carolina—										
Raleigh...	20	0	0	0	0	9	0	2	0	0
Wilmington...	6	0	0	0	0	77	14	1	1	0
Winston-Salem...	1	0	0	0	0	50	7	7	1	20
South Carolina—										
Charleston...	1	0	2	0	1	3	5	7	0	0
Columbia...	11	1	0	0	0	32	19	4	0	0
Greenville...	1	0	0	0	0	60	5	2	0	3
Georgia—										
Atlanta...	0	2	6	10	0	14	10	24	4	9
Brunswick...		0	0	0	0	30		2	1	0
Savannah...	6	0	2	1	1	14	0	7	1	2
Florida—										
St. Petersburg...	3		1	0	0	2	0	1		7
Tampa...	2	3	0	0	0	6	0	0	0	0

## City reports for week ended March 22, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.	
		Cases, esti- mated expect- ancy	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.
East South Central:										
Kentucky—										
Covington..	0	1	1	0	0	4	0	2	2	3
Lexington..	1	0	0	0	0	55	0	2	1	0
Louisville..	4	7	4	0	0	6	9	17	4	4
Tennessee—										
Memphis..	33	6	9	-----	1	32	49	13	4	3
Nashville..	6	1	2	-----	3	16	0	9	1	1
Alabama—										
Birmingham..	29	2	1	9	4	151	48	21	1	6
Mobile.....	0	1	0	-----	1	15	0	2	0	0
Montgomery..	-----	1	0	2	0	7	-----	5	0	0
West South Central:										
Arkansas—										
Fort Smith..	5	1	1	0	-----	151	3	-----	1	0
Little Rock..	1	1	1	0	-----	46	10	-----	1	2
Louisiana—										
New Orleans..	3	9	14	8	7	164	0	15	3	6
Shreveport..	0	-----	1	0	0	6	1	2	-----	0
Oklahoma—										
Tulsa.....	2	1	1	0	-----	11	0	-----	0	2
Texas—										
Dallas.....	4	3	1	-----	1	49	12	8	1	1
Galveston..	0	0	0	0	0	7	0	2	0	1
Houston.....	0	2	0	0	0	54	0	12	1	3
San Antonio..	2	2	3	0	0	34	0	17	1	0
Mountain:										
Montana—										
Billings.....	1	1	0	0	0	3	0	0	1	0
Great Falls..	4	1	4	0	0	26	0	0	0	4
Helena.....	0	-----	0	0	0	28	0	9	-----	0
Missoula....	0	1	1	0	0	33	0	0	1	1
Idaho—										
Boise.....	-----	0	0	0	0	124	-----	0	1	0
Colorado—										
Denver.....	31	8	18	-----	1	125	4	13	9	14
Pueblo.....	8	2	2	0	0	39	13	3	1	3
New Mexico—										
Albuquerque..	2	0	2	0	0	40	0	3	3	0
Utah—										
Salt Lake City..	18	3	0	-----	1	240	12	4	3	0
Nevada—										
Reno.....	3	0	0	0	0	16	0	0	0	0
Pacific:										
Washington—										
Seattle.....	5	4	12	0	-----	55	2	-----	9	10
Spokane.....	39	2	8	0	-----	12	0	-----	5	11
Tacoma.....	9	1	1	0	-----	30	9	-----	3	6
Oregon—										
Portland....	8	3	16	0	0	12	3	5	6	5
California—										
Los Angeles..	-----	23	65	5	0	302	-----	18	14	71
Sacramento..	-----	1	0	-----	2	0	-----	3	2	0
San Francisco..	47	22	38	4	0	92	13	13	16	42

## City reports for week ended March 22, 1924—Continued.

Division, State, and city.	Population July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
<b>New England:</b>										
Maine—										
Lewiston.....	33,790	0	0	0	0	0	0	0	0	16
Portland.....	73,129	0	0	0	2	0	0	0	4	24
New Hampshire—										
Concord.....	22,408	0	0	0	0	0	0	0	1	7
Manchester.....	81,383	0	0	0	0	1	0	0	0	18
Vermont—										
Barre.....	<sup>1</sup> 10,008	0	0	0	2	0	0	0	1	7
Burlington.....	23,613	0	1	0	0	0	0	0	0	10
Massachusetts—										
Boston.....	770,400	0	0	0	16	1	1	0	8	227
Fall River.....	120,912	0	0	0	2	1	0	0	10	46
Springfield.....	144,227	0	0	0	3	0	0	0	2	35
Worcester.....	191,927	0	0	0	3	0	1	0	—	49
Rhode Island—										
Pawtucket.....	68,799	0	0	0	0	0	0	0	—	20
Providence.....	242,378	0	0	0	5	1	0	0	1	82
Connecticut—										
Bridgeport.....	<sup>1</sup> 143,555	0	0	0	2	0	0	0	0	26
Hartford.....	<sup>1</sup> 138,036	0	0	0	0	0	0	0	—	48
New Haven.....	172,967	0	0	0	3	0	0	0	1	40
<b>Middle Atlantic:</b>										
New York—										
Buffalo.....	536,718	0	0	0	11	1	2	1	33	136
New York.....	5,927,625	1	0	0	<sup>2</sup> 120	7	11	2	138	1,575
Rochester.....	317,867	0	0	0	5	0	0	0	3	88
Syracuse.....	184,511	0	0	0	2	1	0	0	2	29
New Jersey—										
Camden.....	124,157	0	0	0	1	0	1	1	—	30
Newark.....	438,699	0	0	0	8	0	1	0	18	110
Trenton.....	127,390	0	0	0	3	0	0	0	1	40
Pennsylvania—										
Philadelphia.....	1,922,788	0	0	0	44	4	3	1	60	565
Pittsburgh.....	613,442	1	0	0	12	1	1	0	50	281
Reading.....	110,917	0	0	0	0	1	0	0	6	35
Scranton.....	140,636	0	0	0	1	0	2	0	0	—
<b>East North Central:</b>										
Ohio—										
Cincinnati.....	406,312	2	11	0	15	0	0	0	34	128
Cleveland.....	888,519	2	1	0	15	2	3	2	29	205
Columbus.....	261,082	1	2	0	8	0	0	0	4	82
Toledo.....	268,338	5	19	0	7	0	0	0	33	68
Indiana—										
Fort Wayne.....	93,573	2	5	0	1	0	0	0	—	17
Indianapolis.....	342,718	4	84	0	9	0	0	1	—	137
South Bend.....	76,709	1	0	0	0	0	0	0	6	6
Terre Haute.....	68,939	1	0	0	1	0	0	0	6	27
Illinois—										
Chicago.....	2,886,121	3	8	0	67	4	1	3	26	724
Cicero.....	55,968	0	0	0	0	0	0	0	0	4
Springfield.....	61,833	2	0	0	1	0	0	0	0	15
Michigan—										
Detroit.....	995,668	3	60	1	17	3	0	1	19	272
Flint.....	117,968	0	2	0	1	0	3	0	6	25
Grand Rapids.....	145,947	2	0	0	4	1	1	0	2	32
Saginaw.....	69,754	0	1	0	1	0	1	1	7	21
Wisconsin—										
Madison.....	42,519	1	0	0	0	0	0	0	4	5
Milwaukee.....	484,595	5	1	0	8	1	0	0	55	94
Racine.....	64,393	1	3	0	1	0	0	0	0	12
Superior.....	<sup>1</sup> 39,671	2	9	0	0	0	0	0	—	16
<b>West North Central:</b>										
Minnesota—										
Duluth.....	106,289	1	12	1	1	1	1	0	—	19
Minneapolis.....	409,125	20	6	0	10	2	2	0	0	101
St. Paul.....	241,891	9	36	0	1	0	0	0	—	67

<sup>1</sup> Population Jan. 1, 1920.<sup>2</sup> Pulmonary only.

## City reports for week ended March 22, 1924—Continued.

Division, State, and city.	Population July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
West North Central—Continued										
Iowa—										
Davenport.....	61,262	4	9			0	0			
Des Moines.....	140,923	3	2			0	0		0	
Sioux City.....	79,662	4				0				
Waterloo.....	39,667	0	0			0	0		8	
Missouri—										
Kansas City.....	351,819	8	0	0	6	1	0	0	6	123
St. Joseph.....	78,232	5	0	0	1	0	0	0	2	25
St. Louis.....	803,853	5	3	0	15	2	2	0	28	258
North Dakota—										
Fargo.....	24,841	1	0	0	1	0	0	0	0	8
Grand Forks.....	14,547	1	0			0	0		0	
South Dakota—										
Sioux Falls.....	29,206	2	0	0	1	0	0	0		4
Nebraska—										
Lincoln.....	58,761	2	0	0	0	0	0	0	0	17
Omaha.....	204,382	9	1	0	4	0	0	0	0	55
Kansas—										
Topeka.....	52,555	3	1	0	1	0	0	0	0	21
Wichita.....	79,261	6	18	0	1	0	0	0	14	21
South Atlantic:										
Delaware—										
Wilmington.....	117,728	0	0	0	3	0	0	0		28
Maryland—										
Baltimore.....	773,580	0	0	0	15	4	0	0	28	232
Frederick.....	11,301	0	0	0	0	0	0	0		6
District of Columbia—										
Washington.....	1,437,571	1	10	0	13	1	1	0	7	160
Virginia—										
Lynchburg.....	30,277	0	0	0	1	0	0	0	19	11
Norfolk.....	159,080	1	0	0	1	0	0	0	8	
Richmond.....	181,044	0	1	0	4	1	0	0	21	52
Roanoke.....	55,502	1	0	0	0	0	0	0	4	13
West Virginia—										
Charleston.....	45,597	0	3	0	4	0	0	0	0	19
Huntington.....	57,918	0	0	0	2	0	0	0		20
Wheeling.....	156,208	0	0	0	1	1	0	1	5	24
North Carolina—										
Raleigh.....	29,171	0	12	0	3	0	0	0	7	10
Wilmington.....	35,719	0	0	0	0	0	0	0	1	6
Winston-Salem.....	56,230	5	4	0	8	0	0	0	0	26
South Carolina—										
Charleston.....	71,245	0	1	0	3	0	0	0	1	37
Columbia.....	39,688	0	3	0	1	1	0	0	0	40
Greenville.....	25,789	1	3	0	0	0	0	0	5	9
Georgia—										
Atlanta.....	222,963	4	85	1	5	1	0	1	0	106
Brunswick.....	15,937	0	0	0	0	0	0	0		3
Savannah.....	89,448	1	1	0	5	0	0	0	1	43
Florida—										
St. Petersburg.....	24,403		0	0	0		0	0	0	11
Tampa.....	56,050	0	0	0	2	3	0	0	1	16
East South Central:										
Kentucky—										
Covington.....	57,877	0	1	0	1	0	0	0	0	11
Lexington.....	43,673	0	0	0	2	0	0	0	2	20
Louisville.....	257,671	1	0	0	8	0	3	0	0	90
Tennessee—										
Memphis.....	170,067	2	0	0	3	0	2	0	3	54
Nashville.....	121,128	1	0	0	5	1	1	0	0	58
Alabama—										
Birmingham.....	195,901	1	24	0	3	1	7	0	7	79
Mobile.....	63,858	2	0	0	3	0	0	0	0	26
Montgomery.....	45,383	0	0	0	0	0	0	0		14
West South Central:										
Arkansas—										
Fort Smith.....	30,635	0	0			0	0		7	
Little Rock.....	79,916	2	0			0	0		2	

<sup>1</sup> Population Jan. 1, 1920.



## City reports for week ended March 22, 1924—Continued.

Division, State, and city.	Popula- tion July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
West South Central—Continued.										
Louisiana—										
New Orleans.....	404, 575	6	0	0	12	2	0	0	1	151
Shreveport.....	54, 590		6	0	2		1	0	0	22
Oklahoma—										
Tulsa.....	102, 018	3	7			0	0		3	
Texas—										
Dallas.....	177, 274	7	0	0	5	0	0	0	1	55
Galveston.....	46, 877	1	0	0	0	1	0	0	0	8
Houston.....	154, 970	1	0	0	3	0	0	0	0	58
San Antonio.....	184, 727	0	0	0	11	1	1	0	2	72
Mountain:										
Montana—										
Billings.....	16, 927	1	0	0	0	0	0	0	2	4
Great Falls.....	27, 787	1	0	0	0	0	0	0	8	8
Helena.....	12, 037		0	0	0		0	0	0	5
Missoula.....	12, 668	1	2	1	0	0	0	0	1	3
Idaho—										
Boise.....	22, 806	0	2	0	0	0	0	0		5
Colorado—										
Denver.....	272, 031	11	0	0	12	1	0	0	6	71
Pueblo.....	43, 519	1	0	0	0	0	1	0	0	14
New Mexico—										
Albuquerque.....	16, 648	0	0	0	2	0	0	0	0	16
Utah—										
Salt Lake City.....	126, 241	9	0	0	3	0	0	0	5	46
Nevada—										
Reno.....	12, 429	0	0	0	0	0	0	0	0	2
Pacific:										
Washington—										
Seattle.....	1315, 685	5	2			0	1		5	
Spokane.....	104, 573	11	31			0	0		11	
Tacoma.....	101, 731	2	1			0	0		0	
Oregon—										
Portland.....	273, 621	6	15	0	0	0	2	1	0	66
California—										
Los Angeles.....	666, 853	2	110	0	37	3	7	1		266
Sacramento.....	69, 950	0	0	0	4	1	0	0		22
San Francisco.....	539, 038	3	0	0	14	2	1	0	1	153

Division, State, and city.	Cerebrospinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. ex- pectan- cy.	Cases.	Deaths.
<b>New England:</b>									
Massachusetts—									
Boston.....	1	1	1	1	0	0	0	1	0
Worcester.....	1	0	0	0	0	0	0	0	0
Rhode Island—									
Providence.....	0	0	0	1	0	0	0	0	0
Connecticut—									
Bridgeport.....	0	0	0	1	0	0	0	0	0
<b>Middle Atlantic:</b>									
New York—									
New York.....	1	2	12	5	0	0	1	0	0
Pennsylvania—									
Philadelphia.....	0	0	1	0	0	0	0	0	0
<b>East North Central:</b>									
Ohio—									
Cleveland.....	0	0	1	0	0	0	0	0	0
Columbus.....	0	0	0	1	0	0	0	0	0
Illinois—									
Chicago.....	3	1	1	0	0	0	1	1	1

<sup>1</sup> Population Jan. 1, 1920.

## City reports for week ended March 22, 1924—Continued.

Division, State, and city.	Cerebrospinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Cases.	Deaths.
East North Central—Contd.									
Michigan—									
Detroit.....	1	0	0	0	0	0	0	0	0
Saginaw.....	0	1	0	0	0	0	0	0	0
West North Central:									
Minnesota—									
St. Paul.....	0	0	0	0	0	0	0	1	0
Missouri—									
Kansas City.....	0	0	1	1	0	0	0	0	0
St. Louis.....	3	1	0	0	0	0	0	0	0
South Atlantic:									
Maryland—									
Baltimore.....	0	0	4	1	0	0	0	0	0
District of Columbia—									
Washington.....	0	0	1	1	0	0	0	0	0
Virginia—									
Lynchburg.....	0	0	0	0	0	0	0	1	0
Norfolk.....	0	0	1	0	0	0	0	0	0
North Carolina—									
Raleigh.....	0	0	0	0	0	1	0	0	0
Winston-Salem.....	0	0	0	0	1	1	0	0	0
South Carolina—									
Charleston.....	0	0	0	0	0	2	0	0	0
Columbia.....	0	0	0	0	0	4	0	0	0
East South Central:									
Tennessee—									
Memphis.....	0	0	0	0	1	0	0	0	0
Nashville.....	0	0	0	0	0	1	0	0	0
Alabama—									
Birmingham.....	0	0	1	0	2	0	0	0	0
West South Central:									
Texas—									
Dallas.....	0	0	0	0	1	1	0	0	0
Houston.....	0	0	0	0	0	1	0	0	0
Mountain:									
Colorado—									
Denver.....	0	0	0	2	0	0	0	0	0
Utah—									
Salt Lake City.....	0	0	0	1	0	0	0	0	0
Pacific:									
California—									
San Francisco.....	0	0	1	1	0	0	0	0	0

The following table gives a summary of the reports from 105 cities for the eight-week period ended March 22, 1924. The cities included in this table are those whose reports have been published for all eight weeks in the Public Health Reports. Eight of these cities did not report deaths. The aggregate population of the cities reporting cases was estimated at nearly 29,000,000 on July 1, 1923, which is the latest date for which estimates are available. The cities reporting deaths had more than 28,000,000 population on that date. The number of cities included in each group and the aggregate population are shown in a separate table below.

## Summary of weekly reports from cities, January 27 to March 22, 1924.

## DIPHTHERIA CASES.

	1924, week ended—							
	Feb. 2.	Feb. 9	Feb. 16.	Feb. 23.	Mar. 1.	Mar. 8.	Mar. 15.	Mar. 22.
Total.....	1,288	1,305	1,226	1,075	1,103	1,024	1,052	1,115
New England.....	161	136	115	109	125	86	110	135
Middle Atlantic.....	410	490	434	394	388	351	401	415
East North Central.....	291	284	247	225	230	218	224	229
West North Central.....	125	97	128	102	<sup>2</sup> 86	<sup>2</sup> 110	<sup>2</sup> 76	<sup>2</sup> 88
South Atlantic.....	59	50	57	31	54	43	37	61
East South Central.....	19	13	17	13	11	9	12	17
West South Central.....	38	33	37	34	34	34	18	21
Mountain.....	21	21	23	27	19	24	24	25
Pacific.....	164	181	168	140	156	149	<sup>2</sup> 140	124

## MEASLES CASES.

Total.....	5,908	5,794	6,577	6,002	7,258	7,101	7,155	7,024
New England.....	227	265	334	294	469	353	460	430
Middle Atlantic.....	809	1,004	1,183	1,388	1,838	1,971	2,258	2,467
East North Central.....	330	292	378	322	476	541	604	659
West North Central.....	522	643	814	835	<sup>2</sup> 1,036	<sup>2</sup> 1,045	<sup>2</sup> 1,112	<sup>2</sup> 923
South Atlantic.....	556	508	655	578	683	801	579	675
East South Central.....	118	98	118	163	263	155	196	231
West South Central.....	554	511	710	738	781	693	410	514
Mountain.....	1,005	975	1,216	871	879	819	739	634
Pacific.....	1,687	1,498	1,169	813	813	723	<sup>2</sup> 797	491

## SCARLET FEVER CASES.

Total.....	1,858	1,934	1,798	1,677	1,873	1,928	1,921	1,927
New England.....	368	307	276	301	330	388	413	337
Middle Atlantic.....	492	572	525	450	519	532	520	532
East North Central.....	405	426	383	317	380	347	349	376
West North Central.....	227	248	258	272	<sup>2</sup> 250	<sup>2</sup> 246	<sup>2</sup> 249	<sup>2</sup> 269
South Atlantic.....	145	183	157	142	188	209	175	221
East South Central.....	12	18	14	12	12	28	22	17
West South Central.....	19	19	12	8	9	11	19	13
Mountain.....	24	27	41	24	30	25	27	22
Pacific.....	166	134	132	151	155	142	<sup>2</sup> 147	140

## SMALLPOX CASES.

Total.....	363	427	473	486	521	488	521	565
New England.....	0	0	0	0	0	0	0	0
Middle Atlantic.....	3	0	0	0	0	1	2	0
East North Central.....	74	87	143	101	145	160	125	186
West North Central.....	36	59	49	65	<sup>2</sup> 51	<sup>2</sup> 56	<sup>2</sup> 76	<sup>2</sup> 77
South Atlantic.....	58	118	117	117	121	117	144	123
East South Central.....	5	8	5	9	35	35	25	25
West South Central.....	12	6	12	14	4	2	5	6
Mountain.....	2	4	3	2	11	11	3	4
Pacific.....	178	145	144	178	154	106	<sup>2</sup> 141	144

<sup>1</sup> Figures for Sioux City, Iowa, estimated. Reports not received at time of going to press.<sup>2</sup> Figures for Kansas City, Mo., estimated. Report not received at time of going to press.<sup>3</sup> Figures for Seattle, Spokane, and Tacoma, Wash., estimated. Reports not received at time of going to press.

## Summary of weekly reports from cities, January 27 to March 22, 1924—Contd.

## TYPHOID FEVER CASES.

	1924, week ended—							
	Feb. 2.	Feb. 9	Feb. 16.	Feb. 23.	Mar. 1.	Mar. 8.	Mar. 15.	Mar. 22.
Total.....	78	76	74	52	49	46	57	60
New England.....	5	0	3	5	8	7	3	2
Middle Atlantic.....	26	24	23	8	11	16	20	19
East North Central.....	14	8	19	8	9	8	11	8
West North Central.....	5	7	2	0	2 1	2 3	2 1	1 5
South Atlantic.....	18	15	7	11	7	3	8	1
East South Central.....	1	2	2	4	4	1	7	13
West South Central.....	1	10	3	6	3	2	3	2
Mountain.....	1	1	4	2	1	2	0	1
Pacific.....	7	9	12	8	5	4	2 4	9

## INFLUENZA DEATHS.

Total.....	82	100	92	99	96	119	107	85
New England.....	3	3	5	4	3	5	10	5
Middle Atlantic.....	29	33	30	36	33	45	37	28
East North Central.....	18	19	13	18	14	19	23	13
West North Central.....	5	6	6	4	2 2	2 2	2 3	1 3
South Atlantic.....	5	14	17	10	13	15	7	15
East South Central.....	7	13	6	12	10	15	16	9
West South Central.....	10	7	11	8	15	12	8	8
Mountain.....	0	2	0	2	2	4	1	2
Pacific.....	5	3	4	5	4	2	2 2	2

## PNEUMONIA DEATHS.

Total.....	1, 120	1, 064	1, 125	1, 191	1, 165	1, 217	1, 194	1, 171
New England.....	73	73	79	87	84	73	85	67
Middle Atlantic.....	463	421	407	461	469	516	466	495
East North Central.....	222	216	255	226	225	221	240	226
West North Central.....	64	46	52	59	2 49	2 59	2 66	1 52
South Atlantic.....	123	134	146	171	166	177	161	152
East South Central.....	62	63	65	65	55	61	55	69
West South Central.....	64	53	59	71	55	62	61	56
Mountain.....	21	24	30	27	19	14	31	20
Pacific.....	28	34	32	33	33	34	2 29	34

Number of cities included in summary of weekly reports and aggregate population of cities in each group, estimated as of July 1, 1923.

Group of cities.	Number of cities reporting cases.	Number of cities reporting deaths.	Aggregate population of cities reporting cases.	Aggregate population of cities reporting deaths.
Total.....	105	97	28,898,350	28,140,934
New England.....	12	12	2,098,746	2,098,746
Middle Atlantic.....	10	10	10,304,114	10,304,114
East North Central.....	17	17	7,032,535	7,032,535
West North Central.....	14	11	2,515,330	2,381,454
South Atlantic.....	22	22	2,566,901	2,566,901
East South Central.....	7	7	911,885	911,885
West South Central.....	8	6	1,124,564	1,023,013
Mountain.....	9	9	546,445	546,445
Pacific.....	6	3	1,797,830	1,275,841

## FOREIGN AND INSULAR.

### CANARY ISLANDS.

#### Plague—Santa Cruz de Tenerife.

A case of plague was reported at Santa Cruz de Tenerife, Canary Islands, March 15, 1924.

### CHINA.

#### Epidemic Influenza—Antung.

Information received under date of February 29, 1924, shows the presence of epidemic influenza in virulent form at Antung, China. The disease was stated to affect particularly the Japanese population of the city.

### CUBA.

#### Communicable Diseases—Habana.

Communicable diseases have been notified at Habana, Cuba, as follows:

Disease.	March 11-20, 1924.		Remain- ing under treatment Mar. 20, 1924.
	New cases.	Deaths.	
Cerebrospinal meningitis.....			1
Chicken pox.....	43		1 66
Diphtheria.....	7		1
Leprosy.....			14
Malaria.....	20		2 20
Measles.....	11		6
Scarlet fever.....	1		2 1
Typhoid fever.....	10		32

<sup>1</sup> Isolated in the penitentiary (Presidio), 50.

<sup>2</sup> From the interior, 13.

### ECUADOR.

#### Plague—Smallpox—February 16-29, 1924.

During the period February 16 to 29, 1924, 19 cases of plague with two deaths were reported at Guayaquil, Ecuador. Plague was reported present at Santa Rosa.

During the same period a case of smallpox was reported at Guayaquil.

#### Plague—Infected Rats—Guayaquil.

During the period under report 18,409 rats were reported taken at Guayaquil, of which 59 rats were found plague infected.

## GERMANY.

## Goiter—Spread in Wurttemberg.

Information received under date of March 1, 1924, shows spread of goiter in Wurttemberg, Germany.

## GREAT BRITAIN.

## Births and Deaths in Scotland, 1923.

The following tables were compiled from information contained in the "Quarterly Return of Births, Deaths, and Marriages Registered in Scotland" for the quarter ended December 31, 1923, which was issued by the Registrar General of Scotland:

*Scotland—Births and deaths during the year 1923.*

	Numbers.			Rates per 1,000 population.		Deaths under 1 year per 1,000 births.
	Births.	Total deaths.	Deaths under 1 year.	Births.	Total deaths.	
Scotland.....	111,901	63,284	8,825	22.8	12.9	79
Larger burghs.....	57,649	32,300	4,909	24.1	13.5	85
Smaller burghs.....	19,875	12,135	1,523	21.1	12.9	77
County districts.....	34,377	18,849	2,393	21.9	12.0	70

*Causes of deaths in Scotland during year 1923.*

Cause of death.	Number of deaths.	Deaths per 100,000 population.
Typhoid fever.....	67	1.36
Typhus fever.....	1	.02
Measles.....	1,118	22.74
Scarlet fever.....	352	7.161
Whooping cough.....	989	20.120
Diphtheria.....	492	10.01
Influenza.....	520	10.76
Lethargic encephalitis.....	125	2.54
Cerebrospinal meningitis.....	92	1.87
Other epidemic diseases.....	225	4.58
Tuberculosis of respiratory system.....	3,994	81.25
Tuberculous meningitis.....	664	13.51
Tuberculosis of intestines and peritoneum.....	520	10.58
Other tuberculous diseases.....	608	12.37
Malignant tumors.....	6,373	129.65
Rheumatic fever.....	174	3.54
Meningitis (not cerebrospinal or tuberculous).....	550	11.19
Apoplexy.....	5,778	117.55
Heart disease.....	6,898	140.33
Diseases of arteries.....	802	16.32
Bronchitis.....	3,573	72.69
Pneumonia (all forms).....	4,675	95.11
Other diseases of respiratory system.....	843	17.15
Diarrhea and enteritis (under 2 years).....	790	16.07
Appendicitis.....	515	10.43
All diseases of liver (not malignant).....	453	9.22
Nephritis, acute and chronic.....	1,798	36.58
Puerperal sepsis.....	216	4.59
Other diseases and accidents of pregnancy and parturition.....	498	10.13
Diseases of early infancy and malformations.....	4,240	86.44
Suicide.....	325	6.61
Other violent deaths.....	2,146	43.66
Other defined diseases.....	11,099	238.00
Causes ill-defined or unknown.....	1,153	23.46
All causes.....	63,284	1,287.44



**HAWAII.****Plague-Infected Rat—Honokaa.**

A plague-infected rat was found March 14, 1924, at Honokaa, Hawaii.

**MADAGASCAR.****Plague Progression—July 1, 1923–January 15, 1924.**

Plague was not recognized as epidemic in Madagascar during the year 1923 nor in the first two weeks of the year 1924. Reported cases and deaths from July 1, 1923, to January 15, 1924, occurring in the town and province of Tananarive, show continuous progression as follows:

Date	Cases.	Deaths.
1923.		
July 1-15.....	1	1
July 16-31.....	4	3
Aug. 1-15.....	6	5
Aug. 16-31.....	13	13
Sept. 1-15.....	7	7
Sept. 16-30.....	34	30
Oct. 1-15.....	54	50
Oct. 16-31.....	40	38
Nov. 1-15.....	39	35
Nov. 16-30.....	50	40
Dec. 1-15.....	67	49
Dec. 16-31.....	114	96
1924.		
Jan. 1-15.....	100	88

**MALTA.****Communicable Diseases—February 16–29, 1924.**

Communicable diseases were reported in the Island of Malta during the period February 16 to 29, 1924, as follows: Chicken pox, 1 case; influenza, 183 cases; malaria, 1 case; pneumonia, 5 cases; undulant fever, 10 cases; whooping cough, 21 cases.

**MEXICO.****Smallpox—Monterey.**

On March 24, 1924, 11 cases of smallpox were officially reported present at Monterey, Mexico. The public health department was stated to be taking active preventive measures.

## POLAND.

## Communicable Diseases—December 9-15, 1923.

During the period December 9 to 15, 1923, communicable diseases were reported in Poland as follows:

Disease.	Cases.	Deaths.	Districts showing greatest number of deaths.
Cerebrospinal meningitis.....	6	3	Silesia.
Diphtheria.....	90	10	Lodz.
Measles.....	620	10	Lwow.
Scarlet fever.....	448	40	Do.
Smallpox.....	23	11	Krakow.
Tuberculosis.....	73	194	Warsaw.
Typhoid fever.....	405	44	Lwow.
Typhus fever.....	84	9	Stanislawow.
Typhus fever, recurrent.....	6	-----	-----
Whooping cough.....	65	13	Warsaw.

## Dysentery—Malaria.

During the period under report, 22 cases of dysentery with three deaths, with greatest mortality occurring in the district of Stanislawow, and 12 cases of malaria, were reported in Poland.

## SPAIN.

## Installation of Sanitary and Disinfecting Stations at Various Ports.

By Royal Decree dated February 25, 1924, instructions were given regarding the specifications for, and early completion of, port sanitary stations. The following is taken from the Decree:

## "ARTICLE 1.

"The material and buildings at present in use by port sanitary stations, shall be completed within the shortest possible period of time so as to attain the specifications hereinafter given:

"(a) For the sanitary stations of Barcelona, Tarragona, Valencia, Alicante, Cartagena, Almeria, Malaga, Cadiz, Seville, Huelva, Vigo, Coruña, Gijon, Santander, Bilbao, Pasajes, Teneriffe, Las Palmas, Ceuta, Melilla, Mahon, Palma de Mallorca and Algeciras: A building for offices; a laboratory for clinical and hygienic analyses; a disinfecting room furnished with a gas chamber, a stove, and washing apparatus; an isolation ward for infectious patients in connection with port traffic; a consulting office for the treatment of sailors of the national and foreign merchant marines and of any sailors of the fleet who may request treatment, furnished with an emergency outfit for accidents in connection with maritime labor; an installation of baths and showers for cleansing laborers working on ships and subject to treatment and for the removal of parasites when necessary; apparatus for exterminating rats and insects and for disinfection on board ships; a gasoline or steam tender and its nautical accessories and such material for landing patients as may be necessary for all cases.

"(b) The remaining port sanitary stations shall have a building for offices; a disinfecting room; an emergency outfit; a tender and apparatus for exterminating rats and insects and for disinfection on board. The installation may be increased if the necessities of the service should demand it."

The remaining articles relate to administrative matters.

### UNION OF SOUTH AFRICA.

#### Summary of Plague Occurrence—Infection in Rodents.

In a public statement made under date of February 21, 1924, the minister of public health of South Africa stated that plague infection was recognized as existing among the veld rodents, with consequent infection of human beings. The total number of human cases occurring from September 16, 1923, to February 16, 1924, was stated to be 66, of which 18 were of Europeans, and the number of deaths 36, 5 of which occurred among Europeans.

#### Preventive Measures at Ports.

Active measures were stated to be in operation at ports for destroying rats chiefly by trapping and poisoning and preventing the migration of rats to and from vessels. It was stated that no plague in man or rodents had occurred at or near a port in the Union since 1912.

### WEST AFRICA.

#### Plague.

Information received under date of April 2, 1924, by way of Dakar, Senegal, shows the presence of plague in West Africa.

### CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

The reports contained in the following tables must not be considered as complete or final as regards either the lists of countries included or the figures for the particular countries for which reports are given.

#### Reports Received During Week Ended April 11, 1924.<sup>1</sup>

##### CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....	-----	-----	-----	Jan. 20-26, 1924: Cases, 2,075; deaths, 469.

<sup>1</sup> From medical officers of the Public Health Service, American consuls and other sources.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received During Week Ended April 11, 1924—Continued.**

## **PLAGUE.**

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo.....	Feb. 17-23.....	6	5	One plague rodent.
Ecuador:				
Guayaquil.....	Feb. 16-29.....	19	2	Rats taken, 18,409; found infected, 59.
Santa Rosa.....	do.....			Present.
India:				Jan. 20-26, 1924; Cases, 5,383; deaths, 3,930.
Karachi.....	Feb. 24-Mar. 1.....	4	1	
Madras Presidency.....	do.....	47	39	
Iraq:				
Bagdad.....	Feb. 10-16.....	3	1	
Madagascar:				
Tananarive.....				July 1-Dec. 31, 1923: City and Province: Cases, 429; deaths, 367.
Do.....				Jan. 1-15, 1924: City and Province: Cases, 100; deaths, 88.
Straits Settlements:				
Singapore.....	Feb. 10-16.....	1		
Union of South Africa.....				Sept. 16, 1923-Feb. 16, 1924: Cases, 66; deaths, 36. (European cases, 18; deaths, 5.)
West Africa.....				Apr. 2, 1924: Reported present in one locality.

## **SMALLPOX.**

Canada:				
Alberta—				
Calgary.....	Mar. 16-22.....	8		
Manitoba—				
Winnipeg.....	Mar. 16-29.....	11		
Ceylon:				
Colombo.....	Feb. 17-23.....	2	1	
Chile:				
Valparaiso.....	Jan. 13-19.....		2	
China:				Present.
Canton.....	Jan. 13-Feb. 23.....			Do.
Chungking.....	Feb. 3-16.....			
Manchuria—				
Harbin.....	Feb. 19-25.....	7		
Shanghai.....	Feb. 9-Mar. 1.....	8	24	Cases, foreign; deaths, Chinese and foreign.
Dominican Republic:				
La Romana.....	Feb. 24-Mar. 1.....	1		
Ecuador:				
Guayaquil.....	Feb. 16-29.....	1		
Egypt:				
Cairo.....	Jan. 1-7.....	1	1	
Gibraltar.....	Mar. 3-9.....	1		
India:				Jan. 20-26, 1924: Cases 2,075; deaths, 469.
Karachi.....	Feb. 24-Mar. 1.....	6	3	
Madras.....	do.....	22	1	
Iraq:				
Bagdad.....	Feb. 10-16.....	1	1	
Japan:				
Kobe.....	Mar. 3-9.....	2		
Taiwan Island.....	Feb. 20-29.....	1		
Mexico:				
Guadalajara.....	Mar. 9-15.....		2	
Mexico City.....	Feb. 24-Mar. 1.....	5		
Monterrey.....				
San Luis Potosi.....	Mar. 16-22.....		1	On Mar. 24, 1924, 11 cases officially announced.
Poland.....				Dec. 9-15, 1923: Cases, 23; deaths, 11.
Portugal:				
Oporto.....	Mar. 9-15.....	8	4	
Siam:				
Bangkok.....	Feb. 3-9.....	2	1	
Switzerland:				
Berne.....	Feb. 24-Mar. 1.....	2		
Syria:				
Damascus.....	Feb. 18-24.....	2		
Tunis:				
Tunis.....	Mar. 4-10.....		2	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received During Week Ended April 11, 1924—Continued.**

## **TYPHUS FEVER.**

Place.	Date.	Cases.	Deaths.	Remarks.
Chile:				
Valparaiso.....	Jan. 13-26.....		5	
China:				
Chungking.....	Feb. 3-10.....			Present.
Mexico:				
Mexico City.....	Mar. 6-12.....	7		
Netherlands:				
Amsterdam.....	Mar. 2-8.....	2		
Palestine:				
Jaffa.....	Feb. 26.....	1		
Jerusalem.....	Feb. 28.....	1		
Poland.....				Dec. 9-15, 1923: Cases, 84; deaths, 9. Recurrent typhus, 6 cases.
Yugoslavia:				
Croatia—				
Zagreb.....	Feb. 17-23.....	1		

**Reports Received from December 29, 1923, to April 4, 1924.<sup>1</sup>**

## **CHOLERA.**

China:				
Hongkong.....	Nov. 18-21.....	1		
India.....				Oct. 14-Dec. 22, 1923: Cases, 14, 117; deaths, 9,148.
Do.....				Dec. 30, 1923-Jan. 19, 1924: Cases, 3,714; deaths, 2,379.
Bombay.....	Dec. 23-29.....	1	1	
Do.....	Feb. 3-16.....	17	17	
Calcutta.....	Nov. 11-Dec. 29.....	85	69	
Do.....	Dec. 30-Feb. 23.....	177	149	
Madras.....	Nov. 25-Dec. 29.....	15	5	
Do.....	Dec. 30-Feb. 16.....	22	10	
Rangoon.....	Nov. 11-Dec. 29.....	8	5	
Do.....	Feb. 3-16.....	3	3	
Indo-China:				
Saigon.....	Dec. 31-Jan. 5.....	1	1	Including 109 square kilometers in surrounding country.
Philippine Islands:				
Manila.....	Feb. 3-9.....	1	1	
Siam:				
Bangkok.....	Nov. 18-Dec. 8.....	4	2	
Do.....	Dec. 31-Jan. 19.....	6	4	
Turkey:				
Constantinople.....	Dec. 2-8.....		1	

## **PLAGUE.**

Azores:				
St. Michael Island.....	Oct. 20-Nov. 10.....	9	5	At localities 3 to 9 miles from port of Ponta Delgada.
Bolivia:				
La Paz.....	Oct. 1-31.....		3	
Brazil:				
Bahia.....	Nov. 11-Dec. 22.....	5	3	
Do.....	Dec. 30-Jan. 19.....	4	5	
Porto Alegre.....	Feb. 10-16.....		1	
Rio de Janeiro.....	Jan. 20-26.....	1		
British East Africa:				
Kenya—				
Mombasa.....	Oct. 14-20.....	1	1	Infected rats, 2. Dec. 9-15, 1923: Cases, 4; deaths, 2; removed from vessel arrived Dec. 11, 1923.
Do.....	Dec. 30-Jan. 5.....	1	1	
Nairobi.....	Nov. 1-21.....	40		In rural districts, several hundred.
Tanganyika.....				To Nov. 24, 1923: Cases, 10; deaths, 25.
Uganda:				
Entebbe.....	Aug. 1-Oct. 31.....	734	719	
	Oct. 1-Nov. 30.....	191	183	

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from December 29, 1923, to April 4, 1924—Continued.

## PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canary Islands:				
Las Palmas	Oct. 15–Nov. 15	14	14	
Santa Cruz de Tenerife	Feb. 19	2		
San Juan de la Rambla	Dec. 11	1		Locality 52 km. from Tenerife
Celebes Island	Nov. 30			Epidemic.
Ceylon:				
Colombo	Nov. 11–Dec. 26	31	21	Plague rodents, 24.
Do.	Dec. 30–Feb. 16	62	59	Plague rodents, 28.
China:				
Nanking	Dec. 16–29			Present.
Do.	Dec. 30–Feb. 9			Do.
Ecuador:				
Guayaquil	Nov. 16–Dec. 31	45	13	Rats taken, 53,240; found infected, 133.
Do.	Jan. 1–31	50	16	Rats taken, 36,650; found infected, 247.
Do.	Feb. 1–15	21	7	Rats taken, 20,479; found infected, 90.
Jipijapa	Nov. 16–Dec. 15			Present.
Quevedo	Jan. 1–31	3	2	
Quito	Nov. 1–30	11	1	
Vino del Milagro	Dec. 1–15	1		
Egypt:				
City—				Jan. 1–Dec. 31, 1923: Cases, 1,519; deaths, 725. Jan. 1–Feb. 28, 1924: Cases, 39; deaths, 24.
Alexandria	Year 1923	65	33	
Cairo	do.	2	2	
Port Said	do.	51	29	
Suez	do.	46	24	
Do.	Jan. 2–Feb. 16	6	3	1924.
Province—				
Assiout	Year 1923	370	211	
Beni-Souef	do.	63	23	
Charkieh	Jan. 31	1	1	1924.
Dakhahieh	Year 1923	2	2	
Fayoum	do.	34	9	
Do.	Feb. 13	1	1	1924.
Gharbieh	Year 1923	23	9	
Girgeh	do.	337	193	
Do.	Jan. 17–Feb. 11	3	2	1924.
Gizah	Year 1923	3	4	
Kalioubiah	do.	76	10	
Do.	Jan. 6	1		1924.
Kena	Year 1923	50	34	
Menoufieh	do.	290	18	
Do.	Jan. 2–Feb. 23	26	16	1924.
Minia	Year 1923	106	44	
Do.	Feb. 5	1	1	1924.
Hawaii:				
Honokaa				Jan. 8–10, 1924: Three plague-infected rodents.
Paaubau				Dec. 14, 1923: One plague rat. Feb. 14, 1924: One plague rat.
India:				Oct. 14–Dec. 29, 1923: Cases, 34,542; deaths, 23,778.
Do.				Dec. 30, 1923–Jan. 19, 1924: Cases, 11,425; deaths, 8,385.
Bombay	Oct. 28–Dec. 22	5	5	
Do.	Dec. 30–Feb. 2	6	5	
Calcutta	Dec. 23–29	1	1	
Do.	Jan. 6–Feb. 23	2	2	
Karachi	Nov. 11–Dec. 29	42	33	
Do.	Dec. 30–Feb. 23	5	2	
Madras Presidency	Nov. 4–Dec. 29	1,657	1,021	
Do.	Jan. 27–Feb. 23	504	313	
Rangoon	Jan. 27–Feb. 16	20	15	
Do.	Dec. 30–Feb. 16	50	48	
Indo-China:				
Saigon	Oct. 28–Dec. 8	19	6	Including 100 square kilometers in surrounding country.
Do.	Jan. 27–Feb. 2	1		Do.
Iraq:				
Bagdad	Nov. 11–Dec. 29	8	6	
Do.	Jan. 6–21	9	3	
Jaya:				
Province—				Oct. 1–Dec. 31, 1923: Deaths, 2,908.
Djakarta	Oct. 1–Dec. 31		146	
Kedoe	do.		1,287	
Pekalongan	do.		150	



# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from December 29, 1923, to April 4, 1924—Continued.**

## **PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Jaya—Continued.</b>				
Province—Continued.				
Samarang.....	Oct. 1-Dec. 31.....		430	
Soerabaya.....	do.....		9	
Do.....	Dec. 26-Jan. 19.....	23	23	
Soerakarta.....	do.....		886	
<b>Madagascar:</b>				
Tananarive Province.....	Oct. 1-Dec. 31.....	324	272	Bubonic, pneumonic, septicemic.
Tananarive town.....	do.....	74	74	
Do.....	Feb. 4.....			Country districts in vicinity stated to be plague infected.
<b>Paraguay:</b>				
Asuncion.....	Dec. 18.....	6	4	
<b>Peru:</b>				
Locality—				Nov. 1-Dec. 31, 1923: Cases, 38; deaths, 24. Jan. 1-31, 1924: Cases, 37; deaths, 15.
Callao.....	Jan. 1-31.....	2		
Canete.....	Nov. 1-30.....	1	1	
Chancay.....	Dec. 1-31.....	2		
Chepen.....	Nov. 1-30.....	1		
Chiclayo.....	Nov. 1-Dec. 31.....	2	1	
Chilca.....	Jan. 1-31.....	1		
do.....	do.....	6		
Huarmey.....	Nov. 1-Dec. 31.....	22	15	
Lima (city).....	Jan. 1-31.....	25	14	
Do.....	Nov. 1-Dec. 31.....	8	7	
Lima (country).....	Jan. 1-31.....	3	1	
Do.....	do.....	2		
Lurin.....	Dec. 13-21.....	7		
Do.....	Dec. 31-Jan. 6.....		1	
<b>Portuguese West Africa:</b>				
Angola—				
Loanda.....	Oct.-Nov.....	59	23	
<b>Russia:</b>				
Bukeeve Province.....				Oct. 1, 1923-Feb. 4, 1924: Cases, 319; deaths, 204. 66 plague centers.
Ural Provinces.....				Oct. 1, 1923-Feb. 4, 1924: Cases, 441. 4 plague centers.
<b>Siam:</b>				
Bangkok.....	Nov. 4-Dec. 8.....	3	2	
Do.....	Jan. 13-19.....	1	1	
<b>Siberia:</b>				
Transbaikalia—				
Chita.....	Jan. 27.....	2	2	Pneumonic. Occurring in veterinary laboratory workers
<b>Spain:</b>				
Malaga.....	Dec. 1-31.....	4		
<b>Straits Settlements:</b>				
Singapore.....	Nov. 11-Dec. 22.....	4	4	
Do.....	Dec. 30-Feb. 9.....	10	8	
<b>Syria:</b>				
Beirut.....	Nov. 1-Dec. 10.....	3		
Do.....	Jan. 1-10.....	1		
<b>Turkey:</b>				
Constantinople.....	Dec. 2-22.....	6	3	
<b>Union of South Africa:</b>				
Cape Province—				
Uitenhage district.....	Dec. 9-15.....			Plague rodent found in vicinity Haarhoff's Kraal farm.
Orange Free State.....				Jan. 27-Feb. 9, 1924: Cases, 30; deaths, 13. (White cases, 6; colored cases, 24; deaths, 13). Feb. 10: Death of case (white) previously reported. Total, Dec. 16, 1923-Feb. 9, 1924: Cases, 54; deaths, 20. (White cases, 17; deaths, 5. Colored cases, 37; deaths, 24.)
Hoopstad district.....	Feb. 3-9.....	1		
Kroonstad district.....	Dec. 16-27.....	7	3	
Do.....	Jan. 6-Feb. 9.....	43	20	Cases, 24; deaths, 15, reported since outbreak.
Winburg district.....	Feb. 3-9.....	1		
Wonderfontein farm.....	Dec. 2-5.....	4		Vicinity of Hoopstad. At Hoopstad, Dec. 9-15, 1923, one death of case previously reported.
<b>On vessels:</b>				
.....	Dec. 11.....	4	2	At Mombasa, British East Africa.
.....	Jan. 24.....	2		At Varna, Bulgaria, from Syrian port.

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from December 29, 1923, to April 4, 1924—Continued.

## SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Nov. 1-30.....	1		
Arabia:				
Aden.....	Dec. 16-22.....	1		Imported.
Do.....	Jan. 13-19.....	1		
Belgium:				
Brussels.....	do.....	10		
Bolivia:				
La Paz.....	Oct. 1-Dec. 31.....	45	15	
Do.....	Jan. 1-31.....	6	2	
Brazil:				
Bahia.....	Jan. 6-12.....	2		
Pernambuco.....	Nov. 4-Dec. 1.....	15	3	
Do.....	Jan. 6-Feb. 16.....		7	
Porto Alegre.....	Dec. 23-29.....		1	
Do.....	Dec. 30-Feb. 16.....		1	
Rio de Janeiro.....	Nov. 18-24.....	3	4	
Do.....	Jan. 6-26.....	3	1	
Sao Paulo.....	Sept. 3-9.....	1		
British East Africa:				
Tanganyika Territory.....	Sept. 30-Oct. 27.....	14	1	
Do.....	Nov. 25-Dec. 29.....	8	3	
Uganda.....	Sept. 1-30.....	6	1	
Entebbe.....	Oct. 1-Nov. 30.....	4	1	
Zanzibar.....	Sept. 1-Oct. 31.....	116	18	Sept. 1-30, 1923: In areas 27 miles from town of Zanzibar. Oct. 1-31, 1923: In vicinity, 1 case, 1 death. In Mikotoni district, 30 cases, 14 deaths reported.
Canada:				
Alberta—				
Calgary.....	Jan. 27-Mar. 15.....	27		
British Columbia—				
Vancouver.....	Dec. 22-29.....	10		
Do.....	Dec. 30-Feb. 23.....	54		
Victoria.....	Feb. 10-Mar. 1.....	2		
Manitoba—				
Winnipeg.....	Nov. 25-Dec. 29.....	21		
Do.....	Dec. 30-Mar. 8.....	60		
New Brunswick—				
Frederickton.....				Feb. 1-29, 1924: Cases, 8.
Gloucester County.....	Mar. 2-8.....	1		
Madawaska County.....	Dec. 8-15.....	1		
Restigouche County.....				Jan. 1-Feb. 29, 1924: Cases, 3.
Victoria County.....	Feb. 10-16.....	2		
Westmoreland County.....	do.....	3		
Ontario.....				Jan. 1-Feb. 29, 1924: Cases, 176.
Fort William and Port Arthur.....	Dec. 16-29.....	3		Occurring at Fort William.
London.....	Feb. 3-Mar. 15.....	3		
North Bay.....	do.....	1		
Perth.....	Mar. 4.....	3		
Toronto.....	Jan. 17-Mar. 22.....	4		
Windsor.....	Feb. 1-Mar. 15.....	52	11	
Quebec—				
Montreal.....	Nov. 30-Feb. 23.....	7		
Saskatchewan—				
Regina.....	Dec. 9-15.....	1		
Do.....	Dec. 30-Feb. 23.....	6	1	
Ceylon:				
Colombo.....	Nov. 11-17.....	1		Port case.
Do.....	Jan. 20-Feb. 2.....	5	1	
Chile:				
Antofagasta.....	Jan. 6-19.....	4	1	
Concepcion.....	Oct. 1-Dec. 31.....		14	
Talcahuano.....	Nov. 26-Dec. 2.....	3		Dec. 22, 1923: Five cases present.
Valparaiso.....	Dec. 9-15.....		1	
China:				
Amoy.....	Nov. 18-Dec. 8.....			Present.
Do.....	Jan. 6-Feb. 16.....		9	Including Kulangsu, 14 deaths; and in hospital, Feb. 9, 1924, more than 30 cases stated to be present.
Antung.....	Dec. 31-Feb. 3.....	2	2	
Canton.....	Dec. 23-Jan. 13.....			Present.
Chungking.....	Nov. 4-Dec. 29.....			Present and endemic.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from December 29, 1923, to April 4, 1924—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
China—Continued.				
Chungking.....	Dec. 30-Feb. 2.....			Present.
Footchow.....	Nov. 4-Dec. 15.....			Do.
Do.....	Dec. 31-Feb. 2.....			Do.
Hongkong.....	Oct. 28-Dec. 29.....	718	630	
Do.....	Dec. 30-Jan. 19.....	292	322	
Manchuria—				
Dairen.....	Dec. 31-Jan. 20.....	2		
Harbin.....	Nov. 12-Dec. 22.....	36		
Do.....	Jan. 1-Feb. 18.....	9	5	
Nanking.....	Dec. 2-15.....			Do.
Do.....	Dec. 30-Jan. 26.....			Do.
Shanghai.....	Dec. 29.....			Prevalent.
Do.....	Jan. 6-Feb. 9.....	19	41	Cases, foreign.
Chosen (Korea):				
Chemulpo.....	Jan. 1-31.....	1		
Seoul.....	Nov. 1-30.....	1		
Colombia:				
Buenaventura.....	Nov. 18-Dec. 15.....	8		
Costa Rica:				
Port Limon.....	Feb. 18-24.....	1		
Czechoslovakia.....				Oct. 1-Dec. 31, 1923: Cases, 1; deaths, 1; occurring in Slovakia
Dominican Republic:				
La Romana.....	Jan. 27-Feb. 2.....	8		
Ecuador:				
Esmeraldas.....	Nov. 16-30.....	4		
Guayaquil.....	Dec. 1-31.....	1		
Do.....	Jan. 1-Feb. 15.....	2		
Quito.....	Nov. 1-30.....	167	26	
Egypt:				
Port Said.....	Nov. 24-Dec. 2.....	1		
Estonia.....				Nov. 1-Dec. 31, 1923: Cases, 38; Jan. 1-31, 1924: Cases, 9.
France:				
Cherbourg.....	Feb. 9-15.....	1		British seaman.
Great Britain:				
Liverpool.....	Mar. 2-8.....	1		In family of seaman recently returned from Oporto, Portugal.
Greece:				
Saloniki.....	Oct. 22-Dec. 30.....		11	
Do.....	Dec. 31-Jan. 27.....	2	1	
Guadeloupe (West Indies)				Jan. 2-16, 1924: Present.
Abymes.....	Feb. 16.....			Present. Vicinity of Point à Pitre.
Basse Terre.....	Dec. 18.....			Present.
Do.....	Jan. 12-Feb. 16.....			Do.
Marie Galante Island.....	Dec. 18.....			Off shore island; present.
Do.....	Feb. 16.....			Present. Estimated 60 cases.
Moule.....	Jan. 12-Feb. 16.....			Present.
Point à Pitre.....	Dec. 18.....			Present in vicinity.
Haiti:				
Cape Haitien.....	Feb. 3-9.....	3		
Hinche.....	Feb. 10-16.....	1		
Port au Prince.....	Feb. 17-Mar. 1.....	2	1	Developed at Limbe, Haiti.
India.....				Oct. 14-Dec. 29, 1923: Cases, 9,720; deaths, 2,241.
Do.....				Dec. 30, 1923-Jan. 19, 1924: Cases, 4,235; deaths, 1,341.
Bombay.....	Oct. 28-Dec. 29.....	55	25	
Do.....	Dec. 30-Feb. 16.....	210	98	
Calcutta.....	Dec. 16-29.....	4	4	
Do.....	Dec. 30-Feb. 9.....	5	5	
Karachi.....	Dec. 30-Feb. 23.....	18	2	
Madras.....	Nov. 4-Dec. 29.....	23	3	
Do.....	Dec. 30-Feb. 23.....	74	4	
Rangoon.....	Nov. 4-Dec. 29.....	12	4	
Do.....	Dec. 30-Feb. 16.....	7	1	
Indo-China:				
City—				
Saigon.....	Nov. 4-Dec. 29.....	133	74	Including 100 square kilometers of surrounding country.
Do.....	Dec. 31-Jan. 16.....	284	168	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from December 29, 1923, to April 4, 1924—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Iraq:				
Bagdad.....	Oct. 24-Dec. 29....	46	28	
Do.....	Dec. 30-Jan. 28....	43	32	
Italy:				
Trieste.....	Feb. 17-23.....	4		
Turin.....	Feb. 18-24.....	1		
Jamaica:				Nov. 25-Dec. 29, 1923: Cases, 115.
Do.....				Dec. 30, 1923-Feb. 16, 1924: Cases,
Kingston.....	Nov. 25-Dec. 29....	3		153. Reported as alastrim.
Do.....	Dec. 30-Feb. 2....	6		
Japan:				
Kobe.....	Feb. 14-29.....	7	2	
Taiwan.....	Jan. 1-10.....	6		
Tokyo.....	Jan. 1-Feb. 3.....	79		
Java:				
East Java—				
Soerabaya.....	Oct. 23-Dec. 29....	348	60	
Do.....	Dec. 30-Jan. 19....	67	13	
West Java—				
Batavia.....	Oct. 27-Dec. 28....	65	13	
Do.....	Dec. 29-Jan. 18....	19	4	
Latvia.....				Oct. 1-31, 1923: Cases, 3. Nov.
				1-30, 1923: Cases, 1. Dec. 1-31,
				1923: Cases, 2.
Mexico:				
Guadalajara.....	Jan. 27-Feb. 23....		3	
Manzanillo.....	Dec. 4-10.....	5	1	
Mexico City.....	Nov. 25-Dec. 70....	32		Including municipalities in Fed-
Do.....	Jan. 30-Feb. 23....	70	23	eral District.
Salina Cruz.....	Jan. 1-31.....	1		Do.
Tampico.....	Jan. 21-Feb. 29....	24		From Irapuato, 9; La Barra, 1.
Vera Cruz.....	Nov. 3-Dec. 30....		4	
Do.....	Jan. 6-27.....	1	2	
Netherlands:				
Rotterdam.....	Jan. 20-26.....	3		
Palestine:				
Jaffa.....	Jan. 15-28.....	3		
Jerusalem.....	Feb. 18-25.....	1		
Persia:				
Teheran.....	Sept. 24-Dec. 23....		4	
Poland.....				Sept. 23-Dec. 8, 1923: Cases, 41
				deaths, 7.
Portugal:				
Lisbon.....	Nov. 11-Dec. 29....	19	10	Corrected report.
Do.....	Dec. 31-Mar. 1....	67	10	
Oporto.....	Nov. 25-Dec. 29....	39	23	
Do.....	Dec. 30-Mar. 8....	65	39	
Portuguese East Africa:				
Lourenco Marques.....	Dec. 30-Jan. 5....	2		
Russia:				
Ukraine.....				August, 1923: Cases, 77. Sep-
				tember, 1923: Cases, 66.
Siam:				
Bangkok.....	Oct. 28-Dec. 8....	33	18	Nov. 25-Dec. 1, 1923: Epidemic.
Do.....	Dec. 30-Jan. 12....	2	1	
Siberia:				
Dauria Station.....	Oct. 21.....			Present. Locality on Chita Rail-
				way, Manchurian frontier.
Sierra Leone:				
Sherbro District—				
Tagbail.....	Nov. 1-15.....	3		
Spain:				
Barcelona.....	Nov. 15-Dec. 26....		2	
Do.....	Jan. 3-9.....		2	
Valencia.....	Nov. 25-Dec. 29....	152	12	
Do.....	Dec. 30-Mar. 8....	233	25	
Straits Settlements:				
Singapore.....	Dec. 16-29.....	2	1	
Do.....	Dec. 30-Jan. 26....	3		
Switzerland:				
Basel.....	Jan. 27-Feb. 9....	4		Corrected.
Berne.....	Nov. 17-Dec. 22....	15		
Do.....	Jan. 6-Feb. 16....	11		
Lucerne.....	Nov. 1-30.....	34		
Do.....	Dec. 1-31.....	26		
Zurich.....	Jan. 27-Feb. 2....	1		

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from December 29, 1923, to April 4, 1924—Continued.

## SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Syria:				
Aleppo.....	Nov. 25-Dec. 1.....	1	-----	In vicinity, at Djisr Choughour.
Beirut.....	Jan. 21-31.....	1	-----	
Damascus.....	Nov. 16-Dec. 15.....	7	-----	
Do.....	Jan. 29-Feb. 12.....	15	-----	
Tunis:				
Tunis.....	Oct. 27-Nov. 2.....	5	1	
Do.....	Jan. 8-Feb. 4.....	3	2	
Turkey:				
Constantinople.....	Nov. 11-Dec. 8.....	3	-----	
Do.....	Jan. 6-Feb. 16.....	1	1	
Union of South Africa:				
Cape Province.....	Oct. 28-Dec. 8.....	-----	-----	Oct. 1-31, 1923: Colored, cases, 41; deaths, 2; white, cases, 3.
Do.....	Jan. 20-Feb. 9.....	-----	-----	Outbreaks.
Natal.....	Oct. 28-Nov. 3.....	-----	-----	Do.
Northern Rhodesia.....	Dec. 4-31.....	40	5	
Do.....		-----	-----	Jan. 1-31, 1924: Cases, 50; deaths, 11; reported from Balovale, Kalabo, and Mankoya districts.
Orange Free State.....	Oct. 28-Nov. 24.....	-----	-----	Outbreaks.
Do.....	Jan. 20-Feb. 2.....	-----	-----	Do.
Transvaal.....	Nov. 18-Dec. 1.....	-----	-----	Do.
Johannesburg.....	Nov. 25-Dec. 15.....	3	-----	
Do.....	Feb. 3-9.....	1	-----	Do.
Uruguay:				
Montevideo.....	Oct. 1-31.....	1	-----	
Venezuela:				
Caracas.....	Jan. 22.....	-----	-----	Epidemic.
On vessels:				
S. S. Torres.....	Jan. 14.....	1	-----	At New Orleans quarantine station from Tampico, Mexico, via ports. Case in seaman signed on at Galveston, Tex., on outward voyage.
S. S. Tupper.....	Jan. 20-26.....	1	-----	At Gonaives, Haiti.
S. S. Vasari.....	Dec. 31.....	1	-----	At Trinidad, West Indies, from Buenos Aires, Argentina. Vessel left Buenos Aires Dec. 15, 1923, for New York, via Santos, Rio de Janeiro, Trinidad, Barbados.
Sch. Annie M. Parker.....	Jan. 23.....	3	-----	At sea. Vessel abandoned and crew removed to vessel bound for Rotterdam. Patients removed at Liverpool. Feb. 28, bound for Newfoundland.

## TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-Dec. 31.....	7	3	
Do.....	Jan. 1-Feb. 10.....	8	5	
Bolivia:				
La Paz.....	Oct. 1-Dec. 31.....	43	5	
Do.....	Jan. 1-31.....	4	1	
Bulgaria:				
Sofia.....		-----	-----	Nov. 18-Dec. 15, 1923: Paratyphus fever, cases, 17. Jan. 6-Feb. 9, 1924: Paratyphus fever, cases, 6.
Canary Islands:				
Teneriffe.....	Jan. 14-Feb. 17.....	-----	2	
Chile:				
Antofagasta.....	Dec. 2-8.....	4	-----	Dec. 11-24, 1923: Deaths, 3.
Concepcion.....	Oct. 1-Nov. 30.....	-----	4	
Do.....	Jan. 8-28.....	2	2	In district, at 12 localities, 92 cases.
Iquique.....	Jan. 20-26.....	-----	1	
Talcahuano.....		-----	-----	Dec. 5, 1923: 3 cases under treatment. Jan. 12, 1924: 1 case under treatment.
Do.....	Dec. 31-Feb. 23.....	4	-----	
Valparaiso.....	Nov. 25-Dec. 15.....	-----	29	Dec. 24, 1923: In hospital, 34 cases.
Do.....	Dec. 30-Jan. 12.....	-----	15	Reports from two districts of the Province of Valparaiso.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from December 29, 1923, to April 4, 1924—Continued.**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Antung.....	Nov. 12-Dec. 30....	5		
Chungking.....	Nov. 18-24.....			Present.
Do.....	Dec. 16-29.....			Endemic.
Do.....	Dec. 30-Jan. 26.....			Do.
Czechoslovakia.....				Oct.-Dec., 1923: Cases, 21.
Danzig-Polish frontier:				
Mühlbanz.....	Mar. 6.....			Present. Origin stated to be focus at Mallinla.
Ecuador:				
Quito.....	Nov. 1-30.....	14	1	
Egypt:				
Alexandria.....	Nov. 19-Dec. 23.....	3		
Do.....	Jan. 8-Feb. 25.....	4		
Cairo.....	Sept. 10-Dec. 31.....	39	11	
Estonia.....				Nov. 1-30, 1923: Paratyphus fever, cases, 8. Dec. 1-31, 1923: Typhus fever, cases, 15. Paratyphus, cases, 4. January, 1924: Paratyphus fever, 6 cases. Dec. 1-15, 1923: Paratyphus fever, cases, 15.
Finland.....				
Germany:				
Coblenz.....	Jan. 27-Feb. 2.....	1		
Greece:				
Athens.....	Jan. 11-Feb. 20.....		7	
Saloniki.....	Nov. 26-Dec. 30.....	7	3	
Hungary.....				July 1-Aug. 31, 1923: Cases, 24.
Budapest.....	Jan. 27-Feb. 23.....	13	7	
Java:				
East Java—				
Soerabaya.....	Dec. 9-20.....	12		
Do.....	Dec. 30-Jan. 5.....	2		
Latvia.....				Oct. 1-31, 1923: Cases, 12; paratyphus fever, 7; recurrent typhus, 3. Nov. 1-30, 1923: Case, 1; paratyphus fever, 2 cases. Dec. 1-31, 1923: Cases, 9; paratyphus, cases, 3.
Mexico:				
Durango.....	Dec. 1-31.....		2	
Do.....	Jan. 1-Feb. 29.....		3	
Guadalajara.....	Jan. 27-Feb. 16.....		2	
Mexico City.....	Nov. 25-Dec. 29.....	86		Including municipalities in Federal district.
Do.....	Dec. 30-Feb. 23.....	36	8	Do.
San Luis Potosi.....	Jan. 17-23.....		1	
Torreon.....	Feb. 1-29.....		2	
Norway:				
Stavanger.....	Dec. 25-31.....	1		
Palestine:				
Jaffa.....	Jan. 1-21.....	3		
Jerusalem.....	Feb. 19-25.....	1		
Persia:				
Teheran.....	Sept. 24-Oct. 23.....		1	
Poland.....				Sept. 23-Dec. 8, 1923: Cases, 581; deaths, 49; recurrent typhus, cases, 49; deaths, 1.
Portugal:				
Oporto.....	Jan. 27-Feb. 2.....	2		
Rumania:				
Kishineff District.....	Nov. 1-Dec. 31.....	15		
Russia:				
Ukraine.....				August, 1923: Cases, 454. September, 1923: Cases, 314. Recurrent typhus: August, 1923; cases, 1366. September, 1923; cases, 941.
Spain:				
Barcelona.....	Nov. 29-Dec. 12.....		2	
Do.....	Jan. 3-Feb. 13.....		5	
Madrid.....	Dec. 1-31.....		7	
Syria:				
Damascus.....	Jan. 27-Feb. 2.....	1		
Tunis:				
Tunis.....	Feb. 5-11.....	1		



# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from December 29, 1923, to April 4, 1924—Continued.**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Turkey:				
Constantinople.....	Nov. 11-Dec. 29.....	15	1	
Do.....	Dec. 30-Jan. 26.....	6		
Union of South Africa.....				Oct. 1-31, 1923: Colored, 287 cases, 58 deaths; white, 2 cases; total, 289 cases, 58 deaths.
Cape Province.....				Oct. 1-31, 1923: Colored, cases, 245; deaths, 47.
Do.....	Oct. 28-Dec. 8.....			Outbreaks.
Do.....	Jan. 27-Feb. 9.....			Do.
Natal.....				Oct. 1-31, 1923: Colored, cases, 4; deaths, 3.
Do.....	Oct. 28-Nov. 3.....			Outbreaks.
Do.....	Jan. 27-Feb. 2.....			Do.
Durban.....	Nov. 24-Dec. 1.....	73		Cases occurring among native stevedores in the harbor area of the port and confined to one barracks.
Orange Free State.....				Oct. 1-31, 1923: Colored, cases, 25; deaths, 8.
Do.....	Dec. 15.....			Outbreaks.
Do.....	Feb. 3-9.....			Do.
Kroonstad District.....	Jan. 20-26.....			Outbreaks on two farms.
Transvaal.....				Oct. 1-31, 1923: Colored, cases, 13.
Do.....	Oct. 28-Dec. 1.....			Outbreaks.
Do.....	Jan. 1-31.....	4	1	
Johannesburg.....	Oct. 1-Dec. 31.....	3	4	
Do.....	Jan. 6-Feb. 16.....	7		
Potschefstroom District.....	Jan. 20-26.....			Outbreaks on seven farms.
Venezuela:				
Maracaibo.....	Dec. 16-22.....		1	
Do.....	Feb. 17-Mar. 1.....		2	
Yugoslavia:				
Croatia—				
Zagreb.....	Dec. 2-15.....	3		
Serbia—				
Belgrade.....	Nov. 25-Dec. 1.....	1		

## **YELLOW FEVER.**

Brazil:				
Pernambuco City.....	Nov. 16.....	3	2	